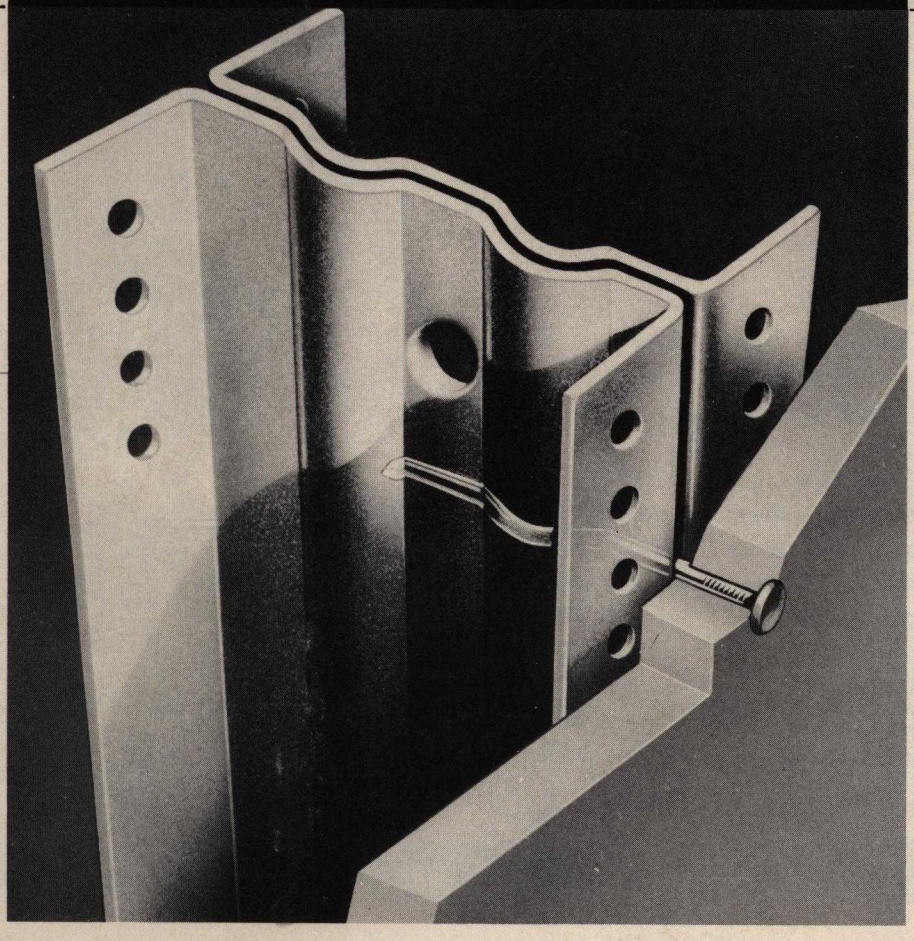
ARCHITECTS' REFERENCE

COLLATERAL MATERIAL USAGE
AND TYPICAL DETAILS FOR

STRAN STEEL

NAILABLE FRAMING



STRAN-STEEL CORPORATION A UNIT OF NATIONAL STEEL CORPORATION

Ecorse, Detroit 29, Michigan

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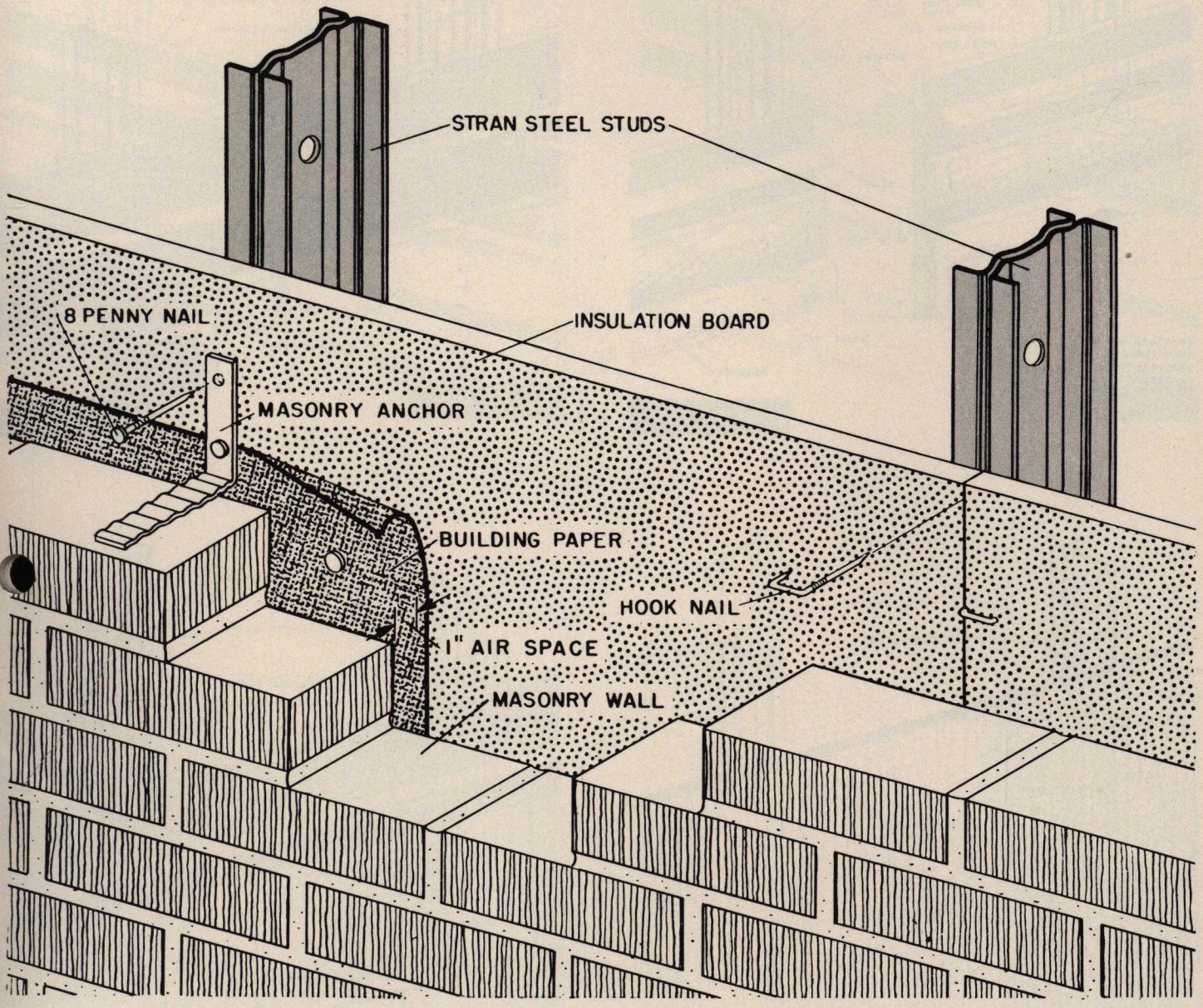

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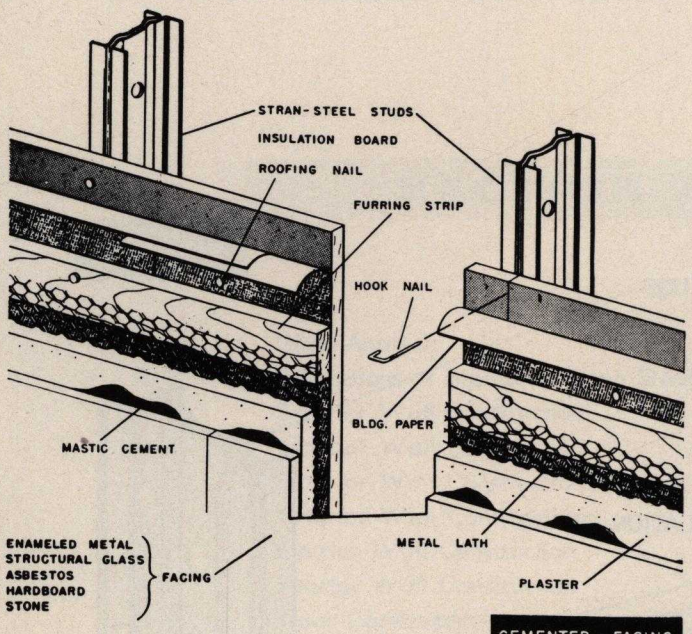
EXTERIOR WALL CONSTRUCTION



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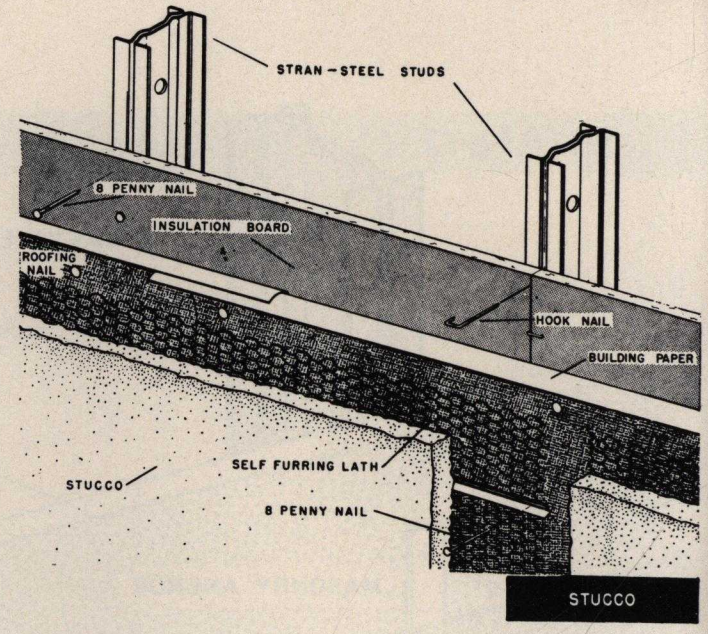

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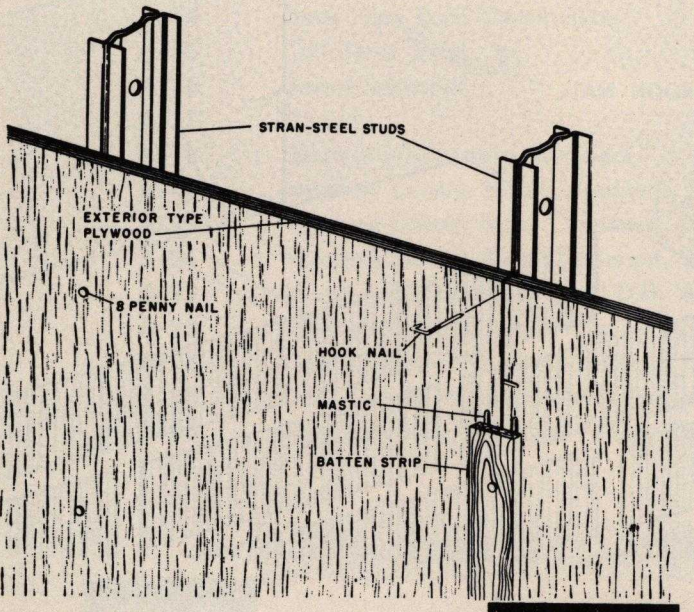

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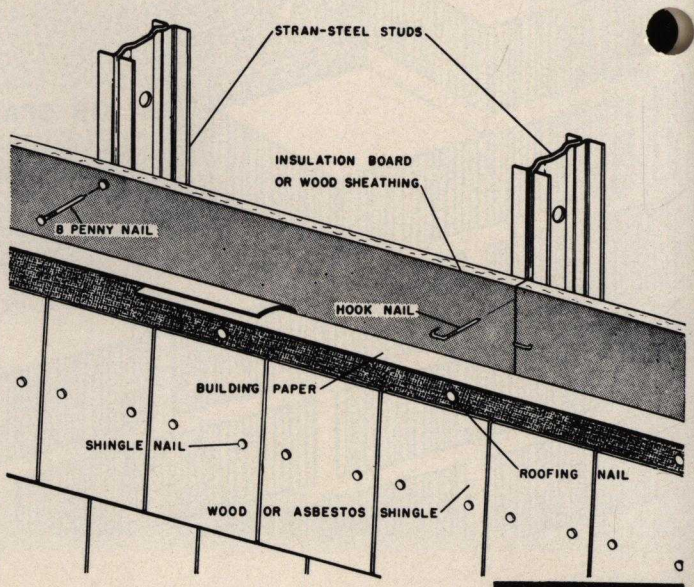

SHINGLES

EXTERIOR WALL CONSTRUCTION

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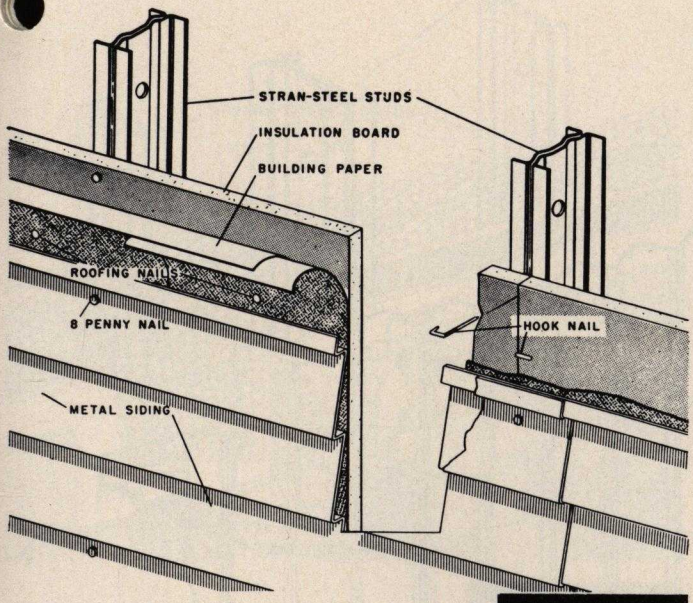

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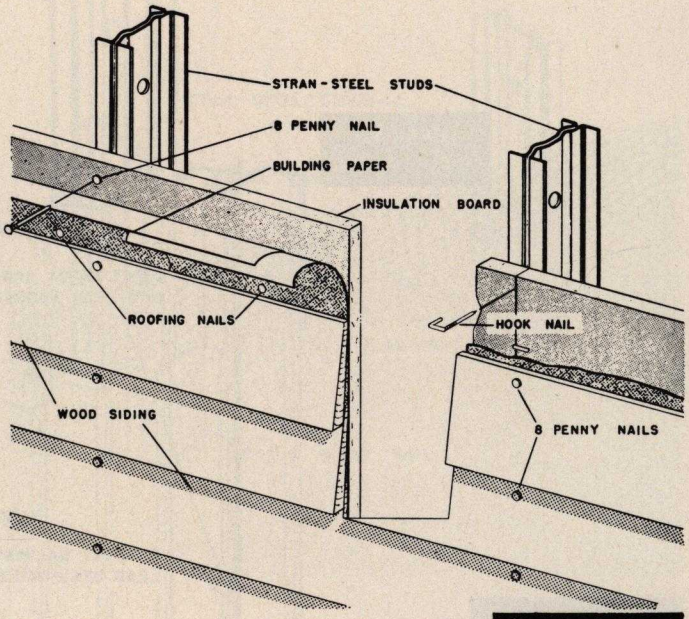

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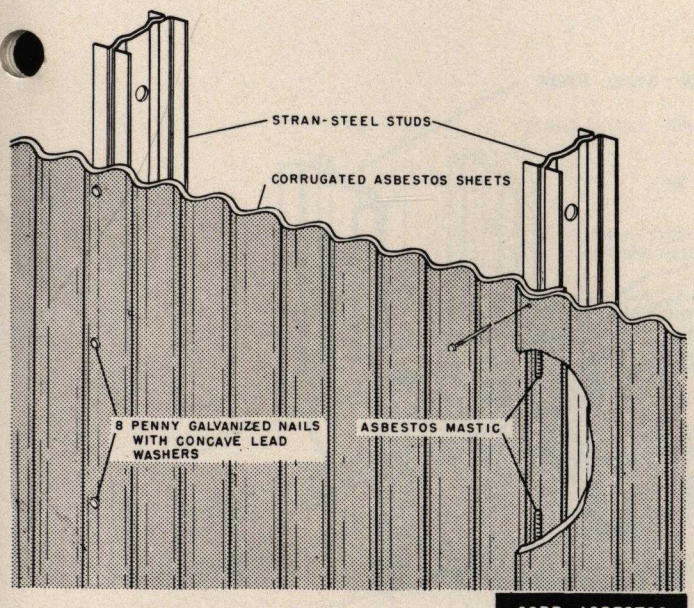

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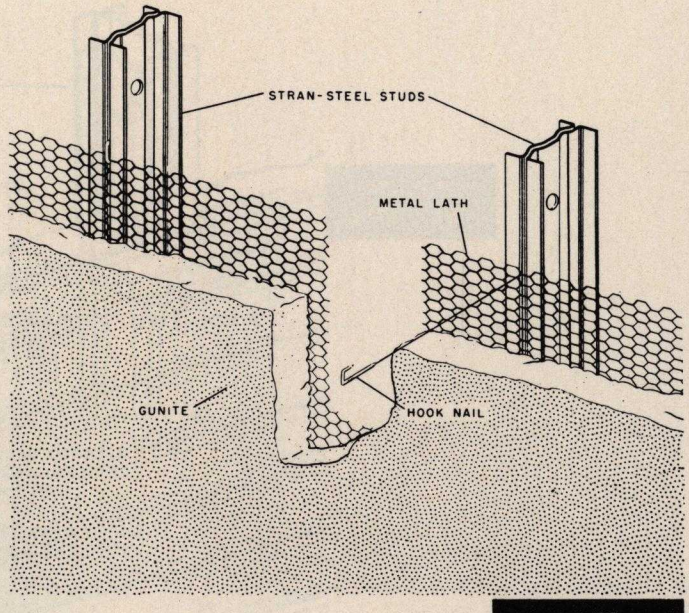

GUNITE

STRAN-STEEL CORPORATION
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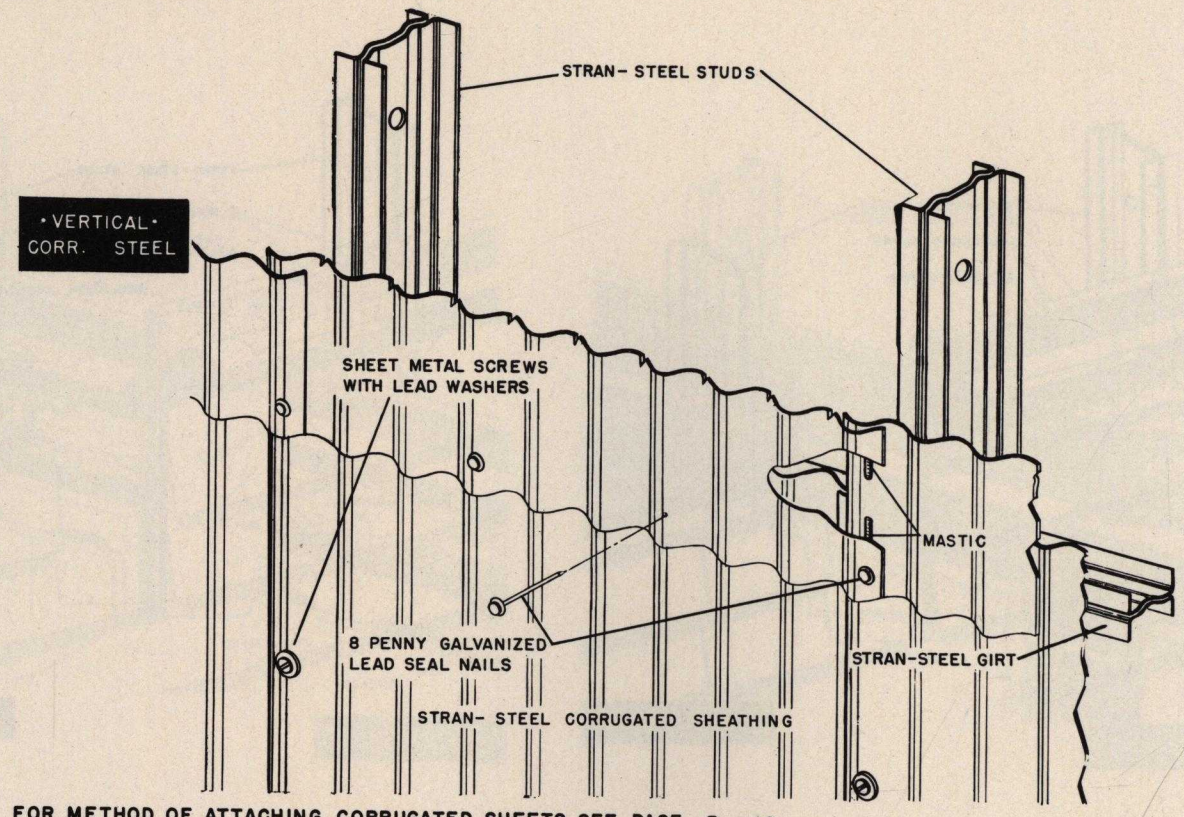
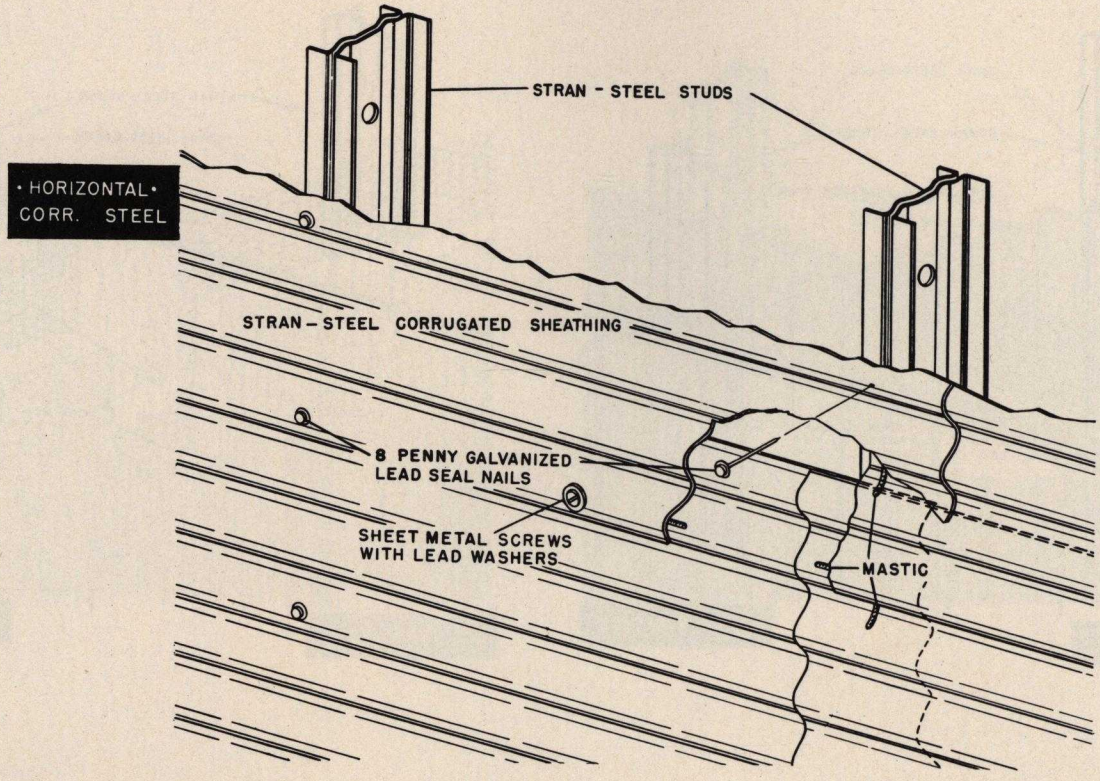
EXTERIOR WALL CONSTRUCTION



● FOR METHOD OF ATTACHING CORRUGATED SHEETS SEE PAGE B-q-16



EXTERIOR WALL CONSTRUCTION

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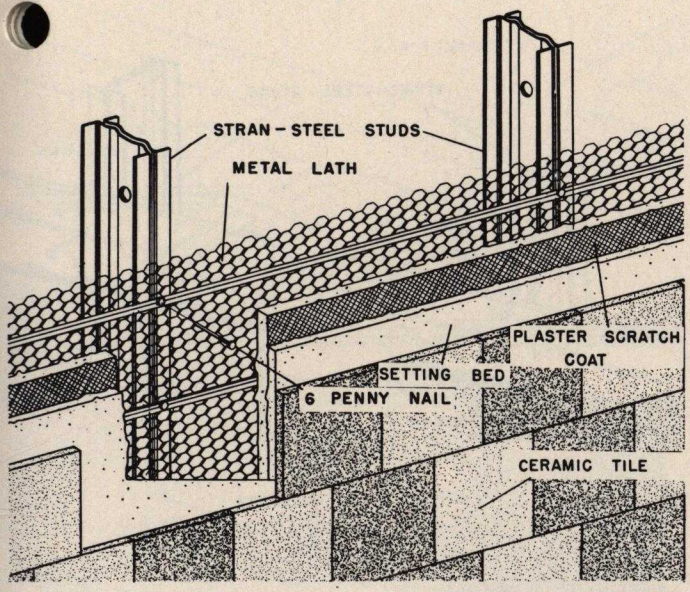

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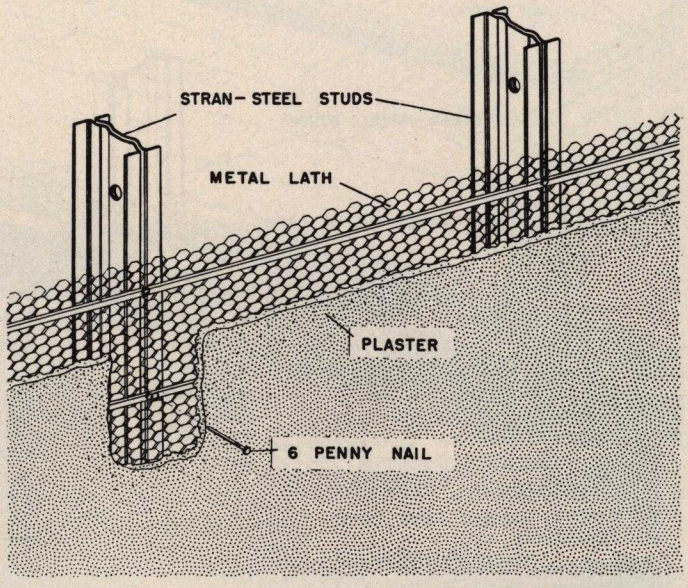

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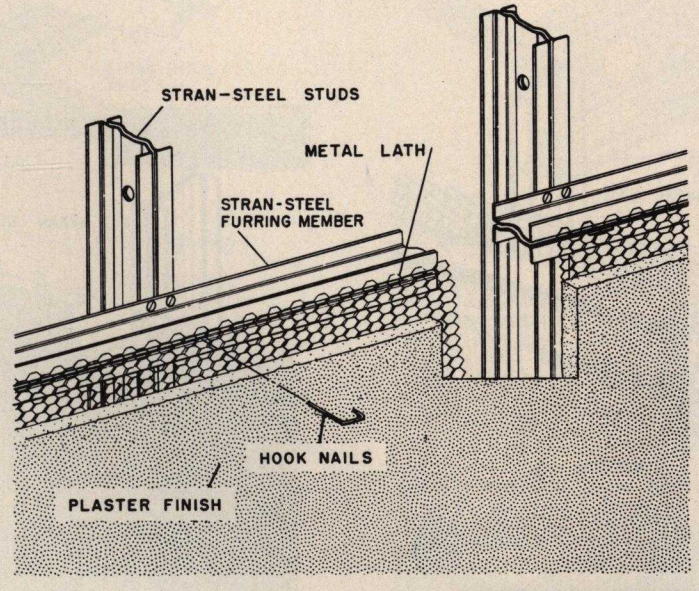

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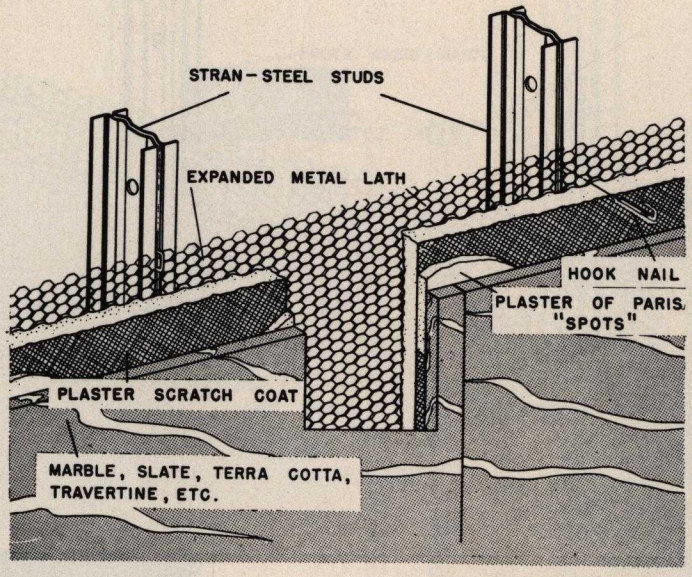

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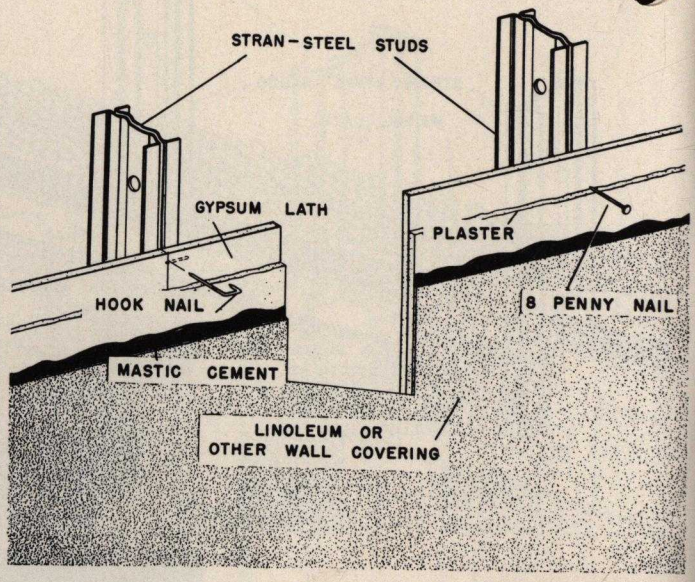

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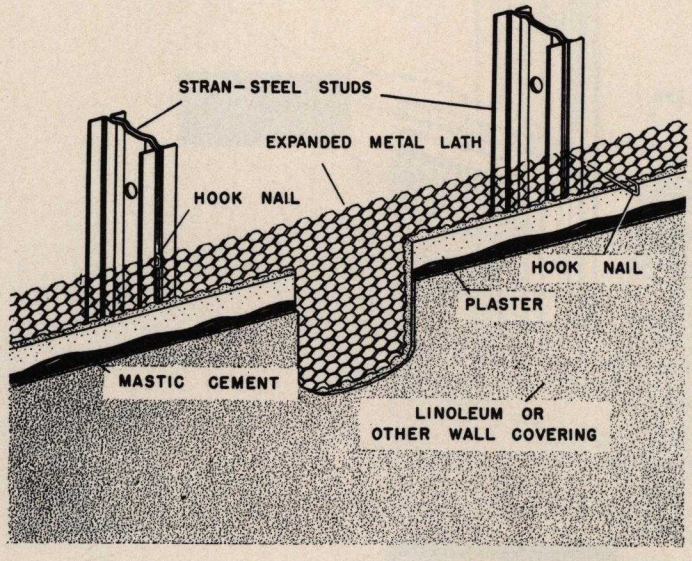

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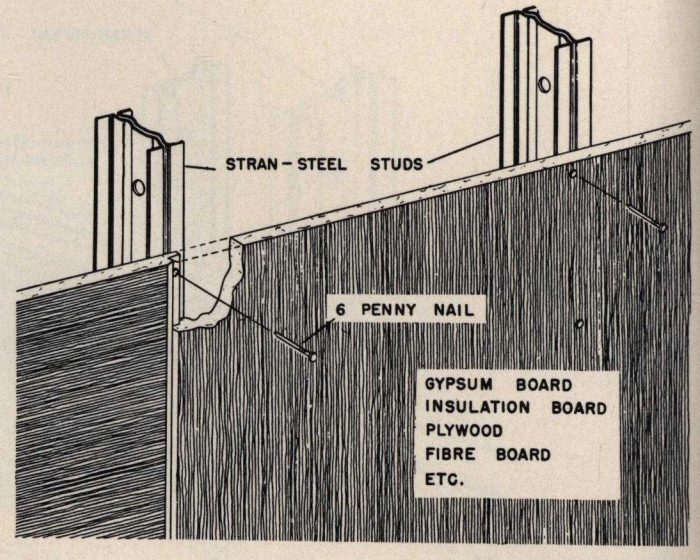

RIGID BOARD

INTERIOR WALL CONSTRUCTION

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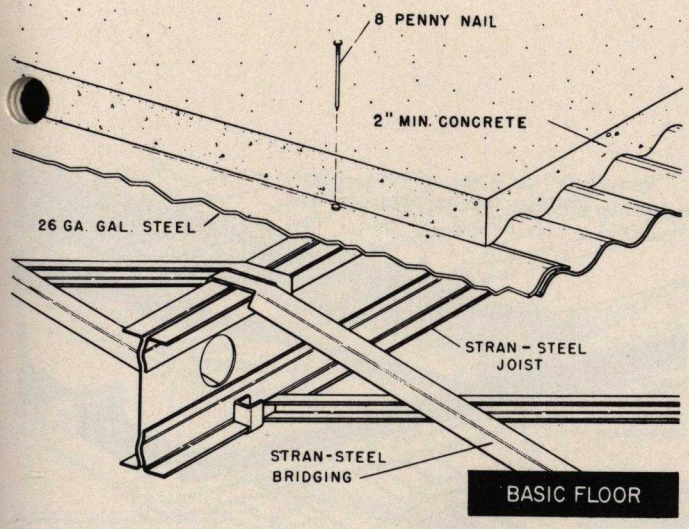
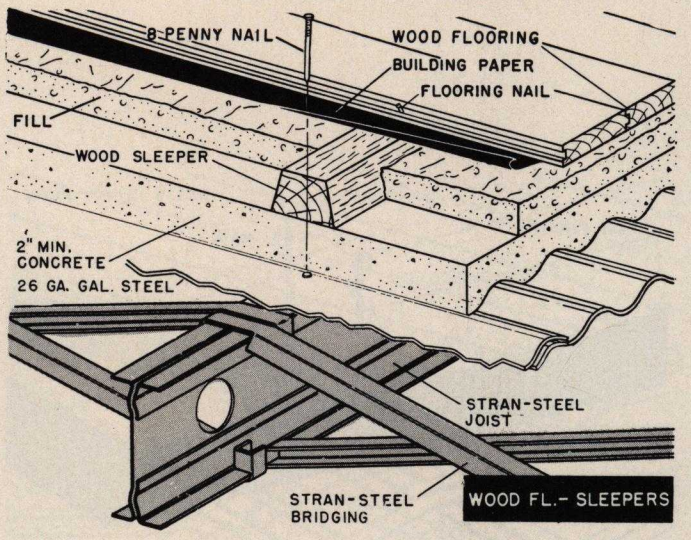
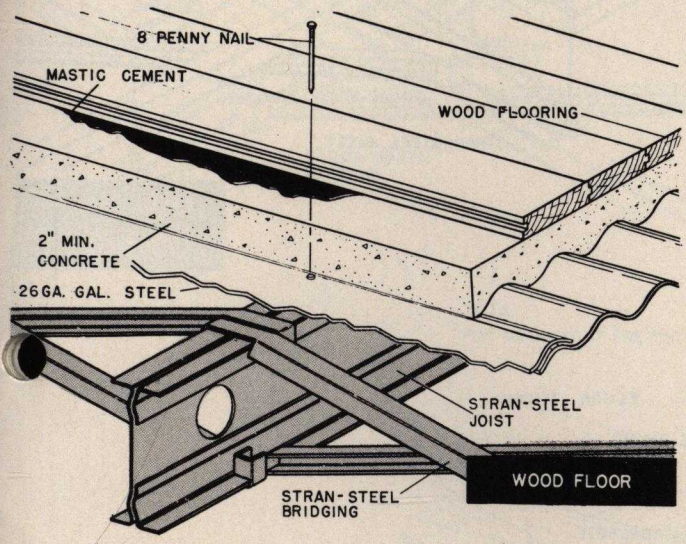
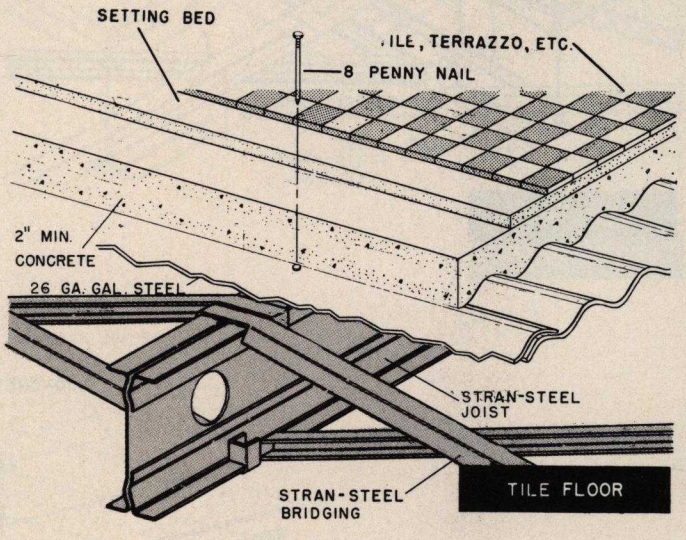
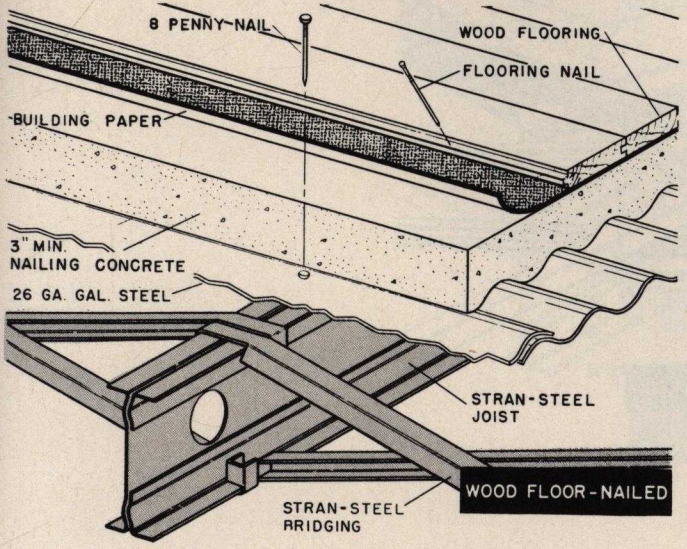
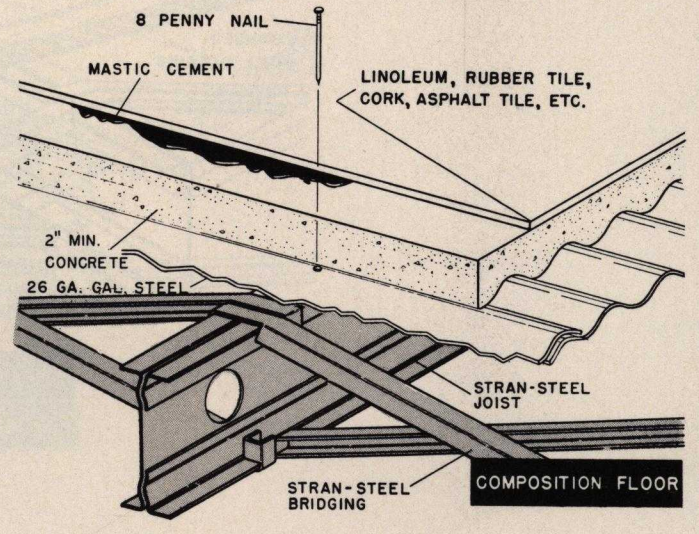




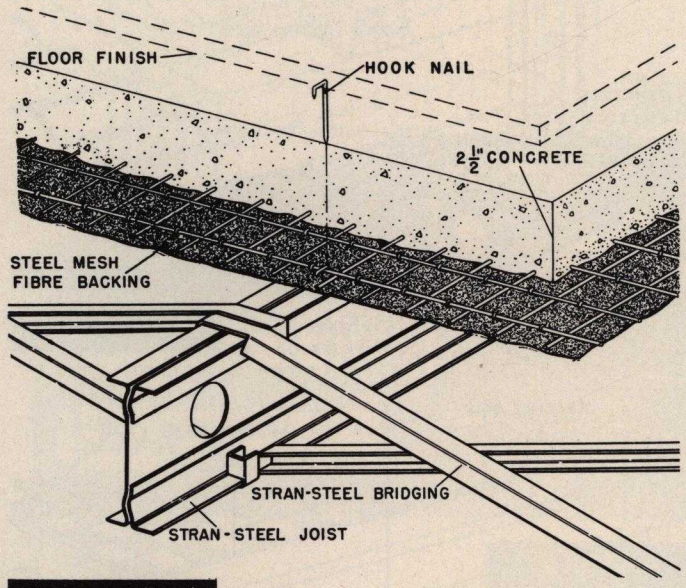








FLOOR CONSTRUCTION



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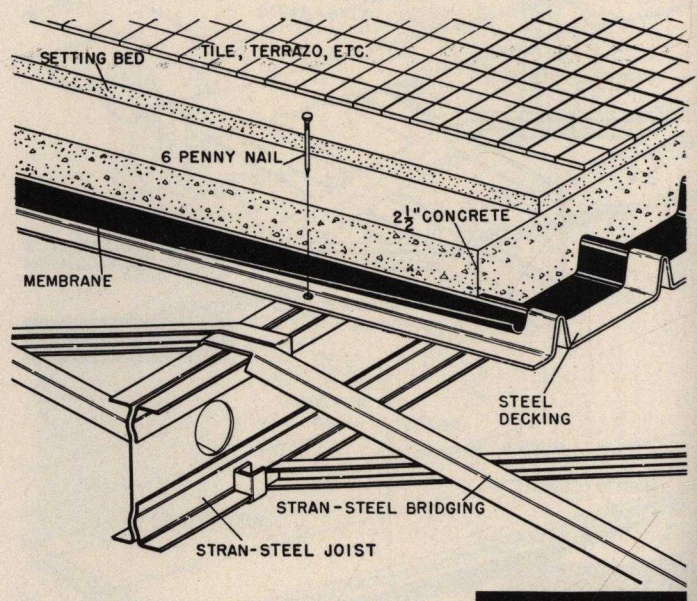
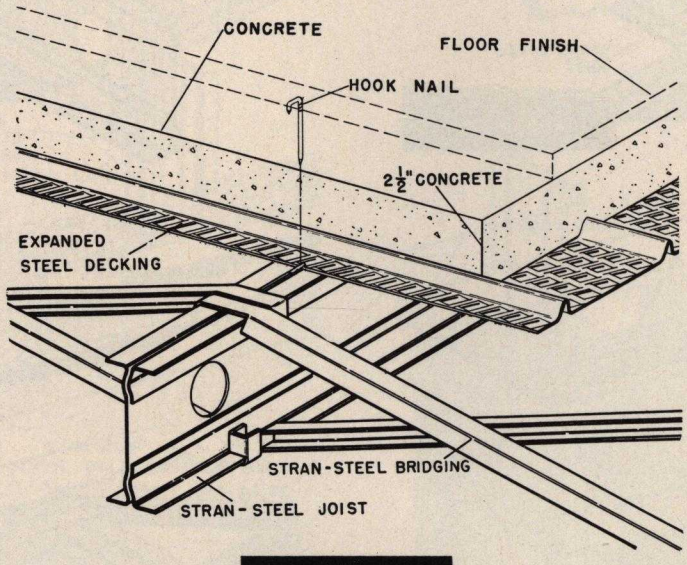


STEEL DECKING



EXPANDED STEEL

FLOOR CONSTRUCTION

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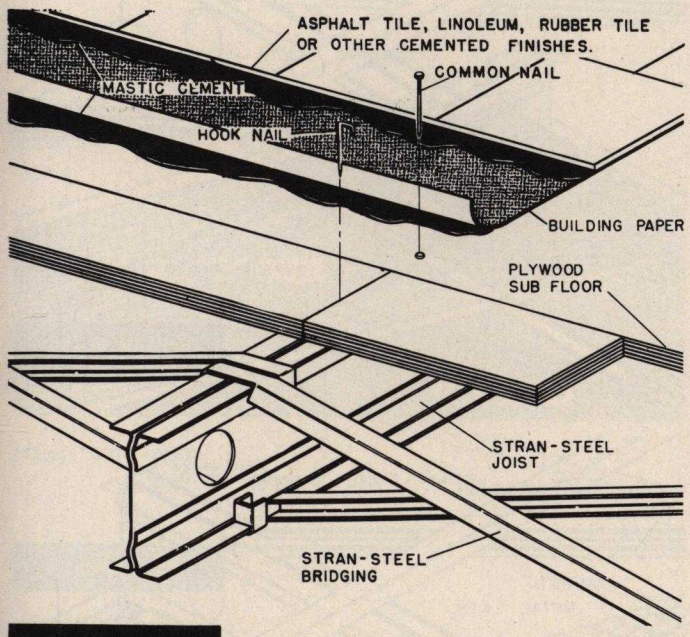

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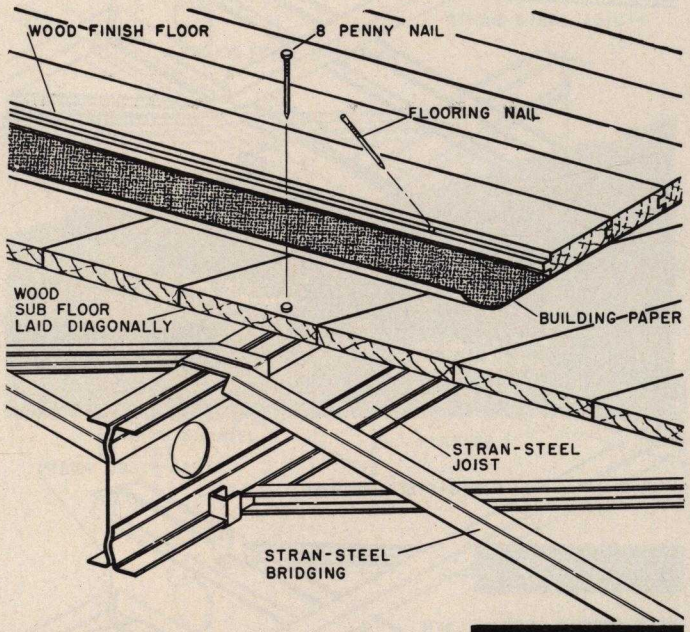
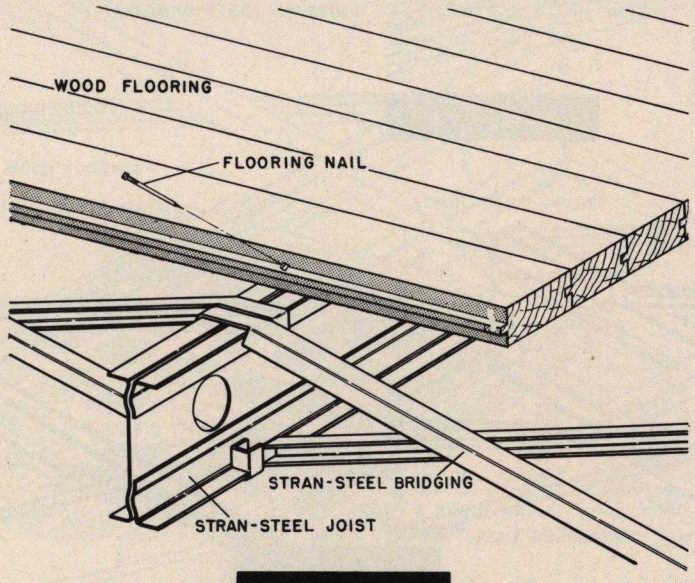


DIAGONAL SHEATHING

NOTE:
FOR METHODS OF PREVENTING FLOOR SQUEAKS SEE PG. E-G-2.



WOOD FLOORING

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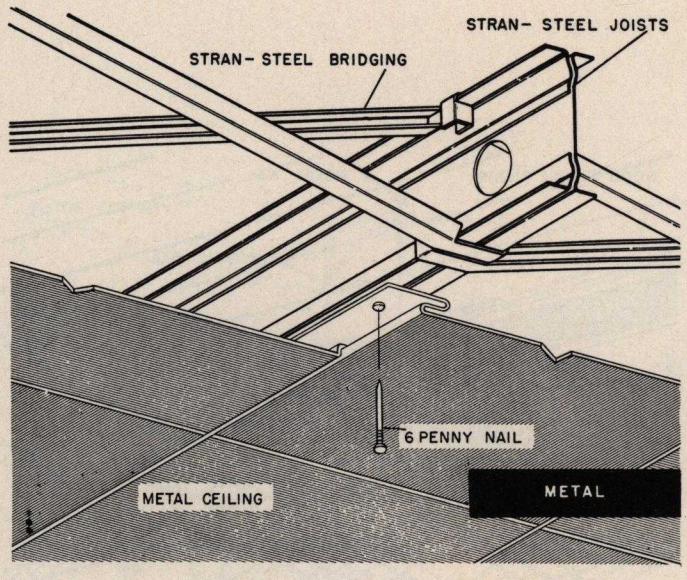
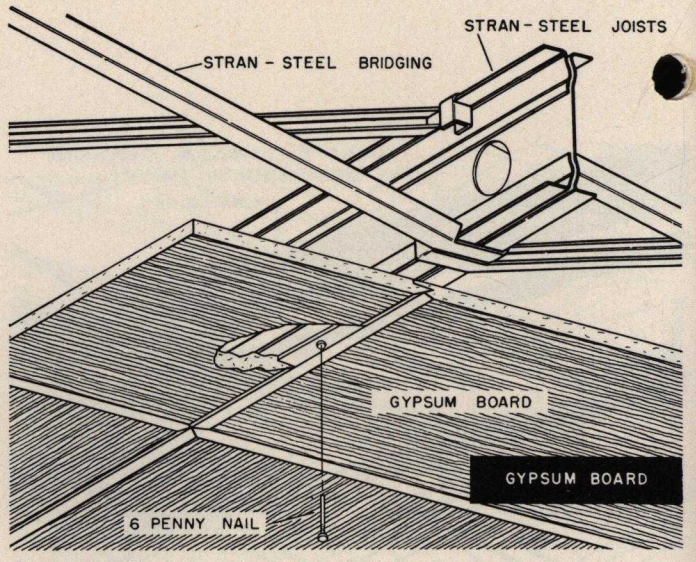
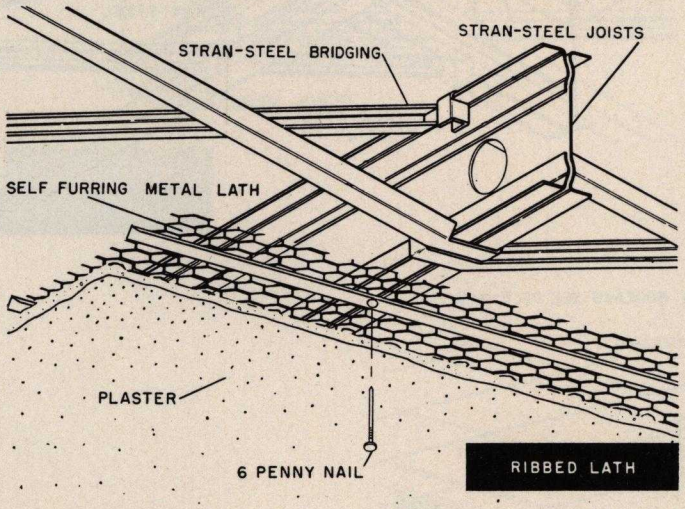
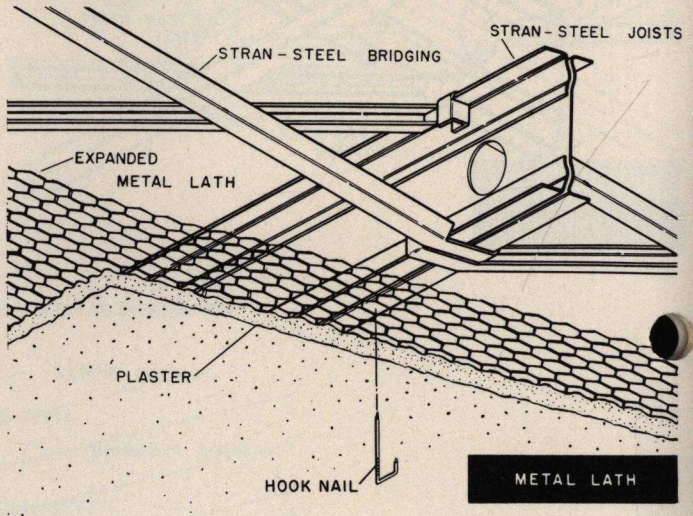
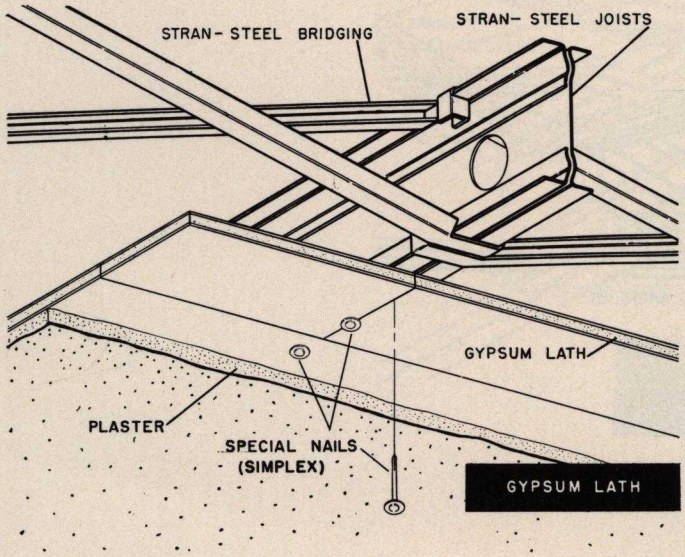
FLOOR CONSTRUCTION

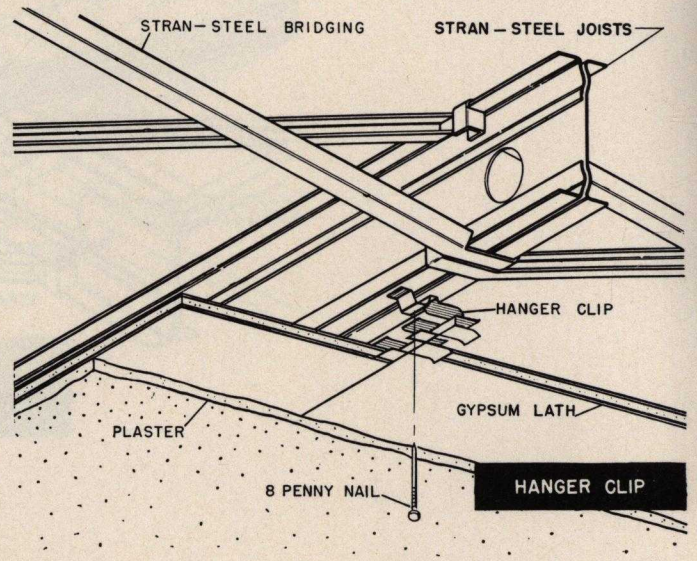












CEILING CONSTRUCTION

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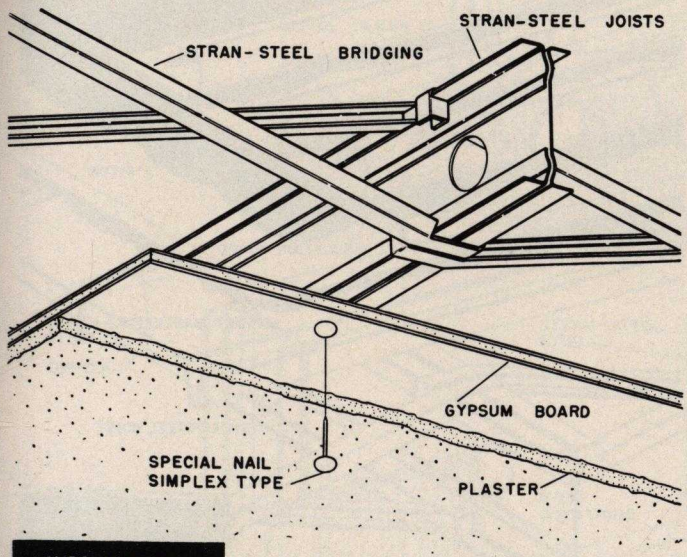

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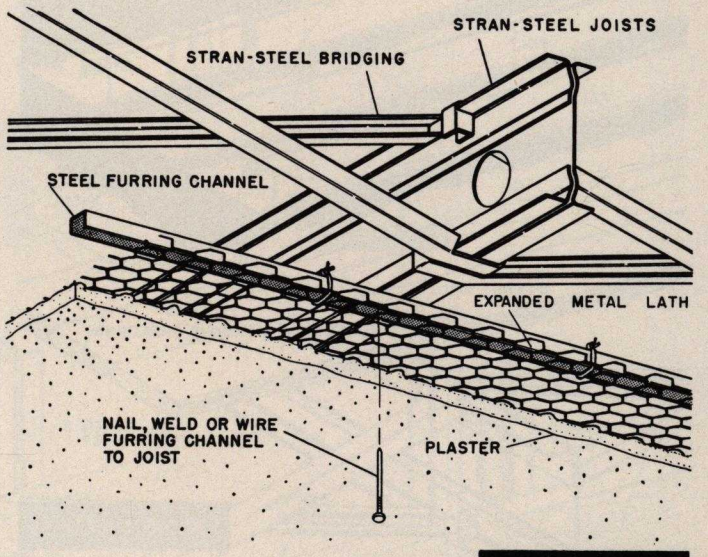

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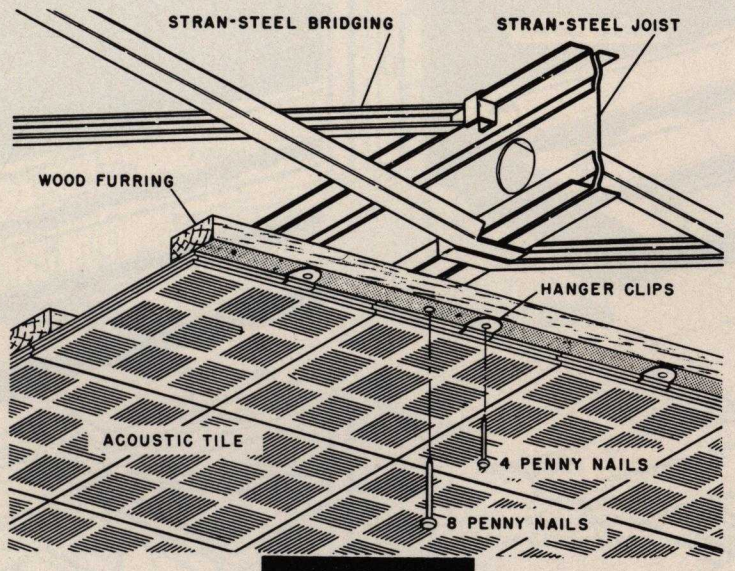

ACOUSTIC TILE

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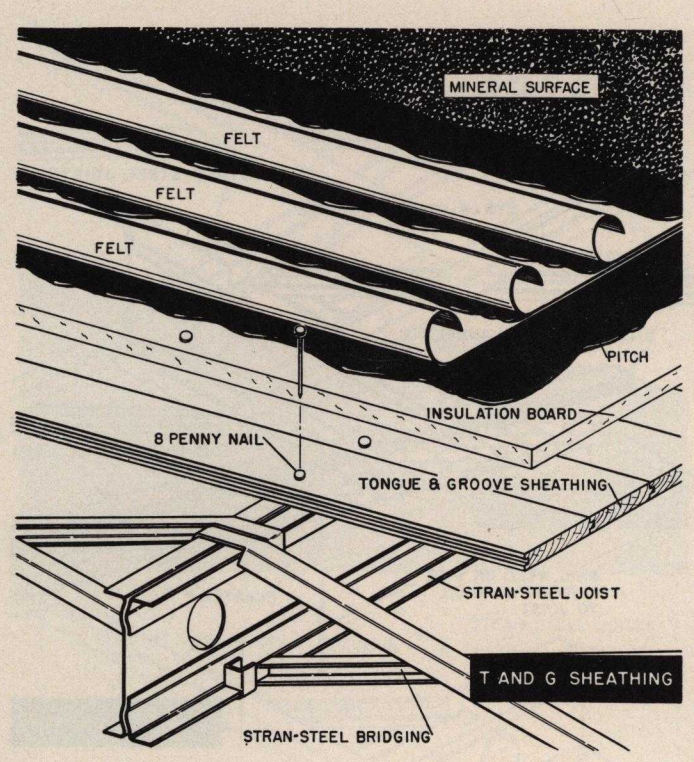
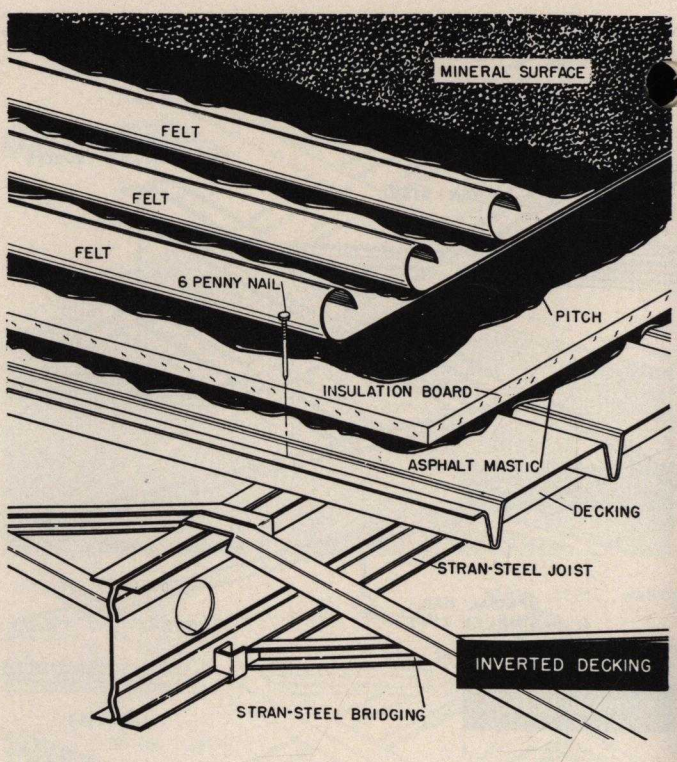
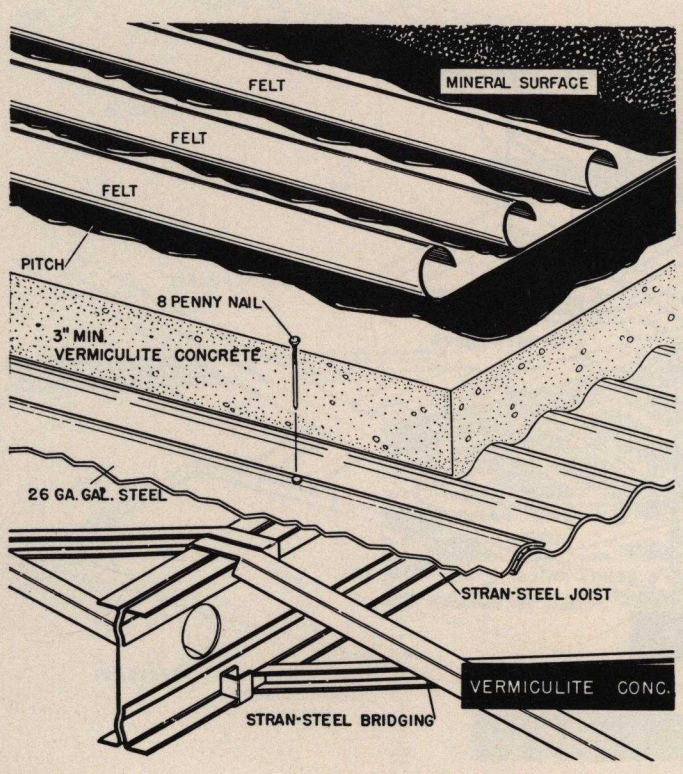
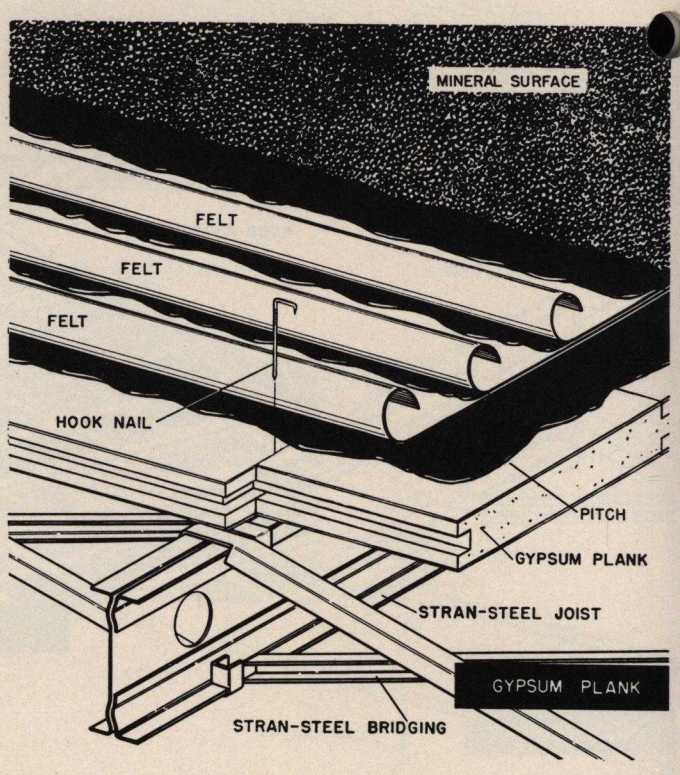
FURRED CEILING CONSTRUCTION









DECK TYPE ROOF CONSTRUCTION

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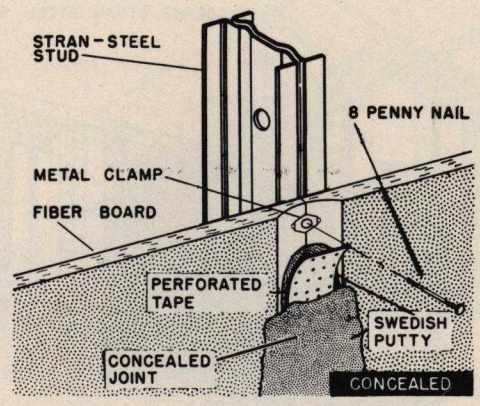

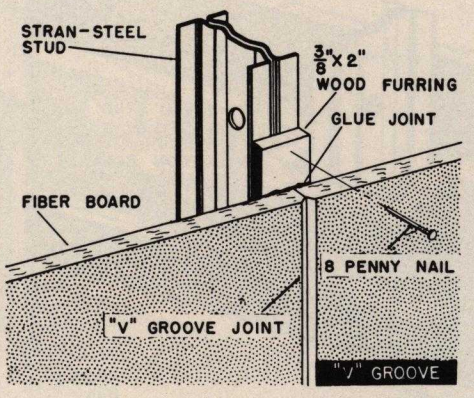

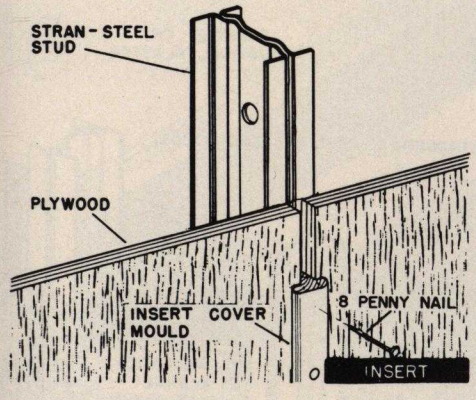

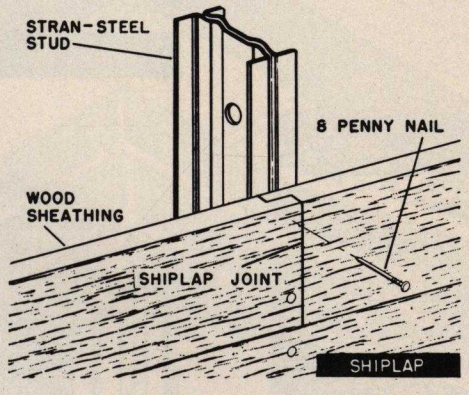

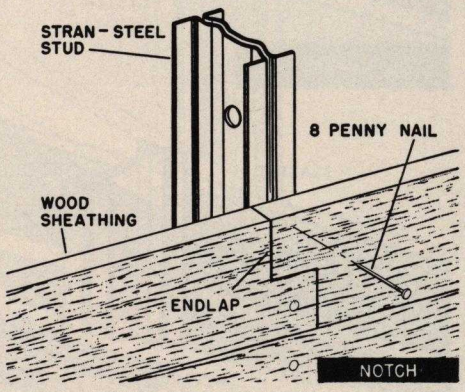

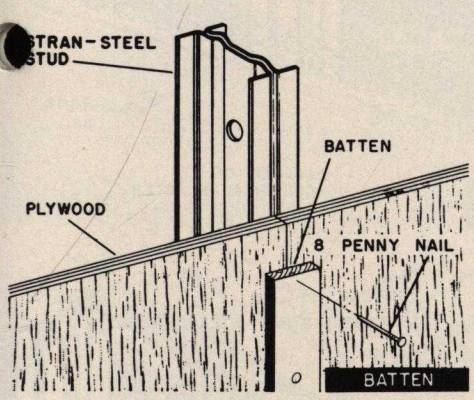

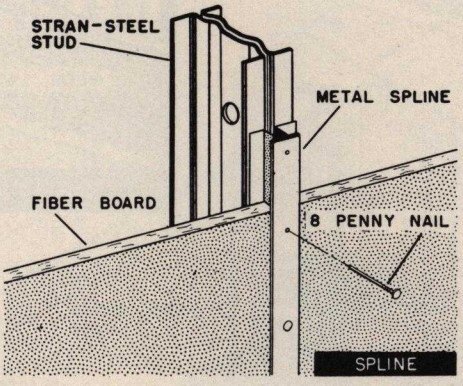

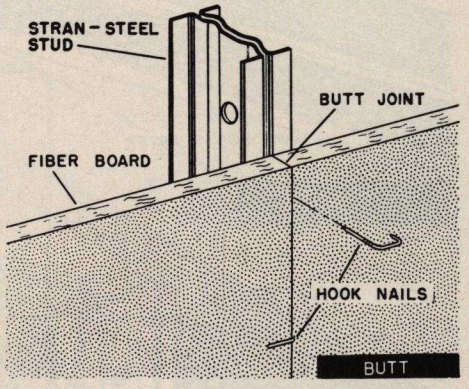

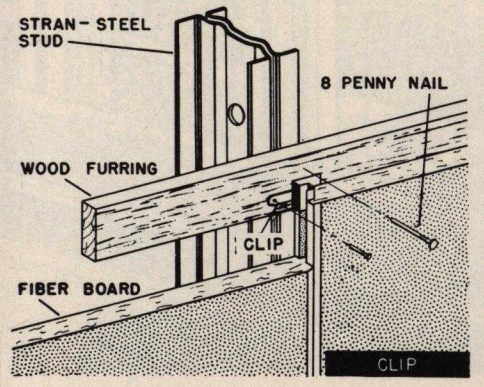

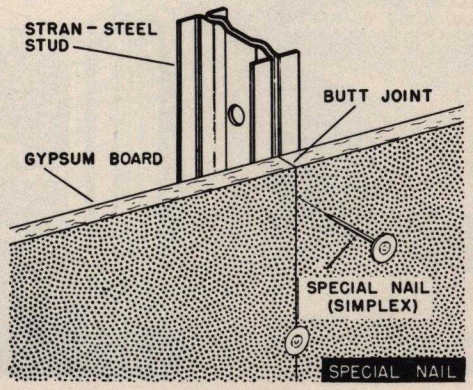

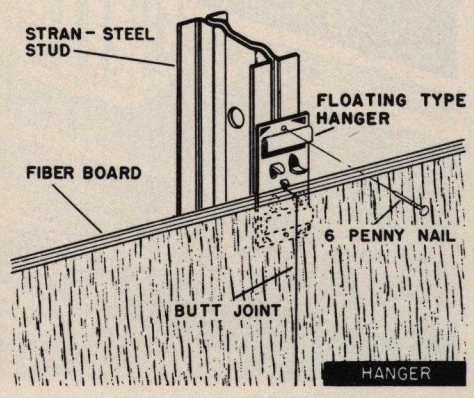

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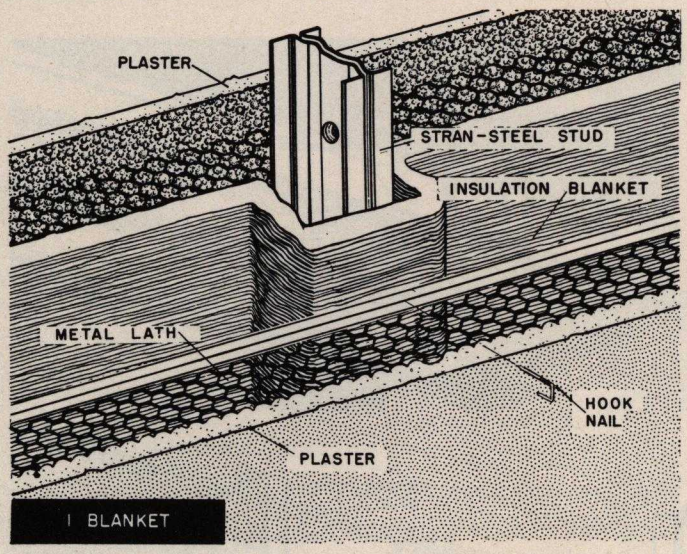
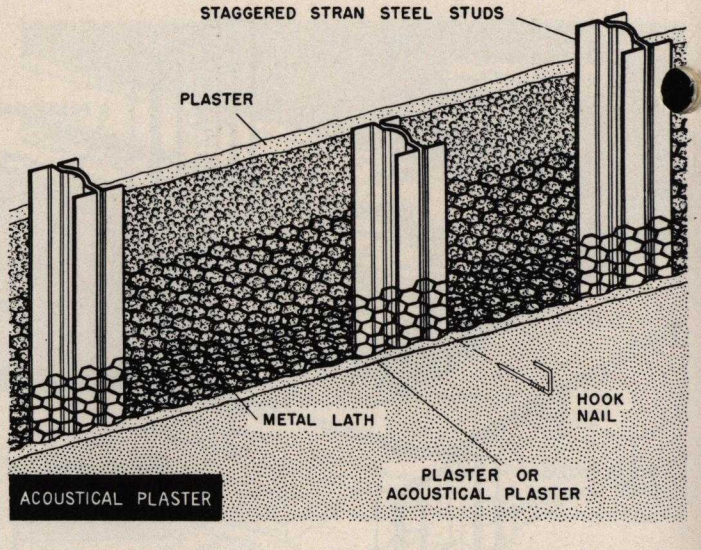
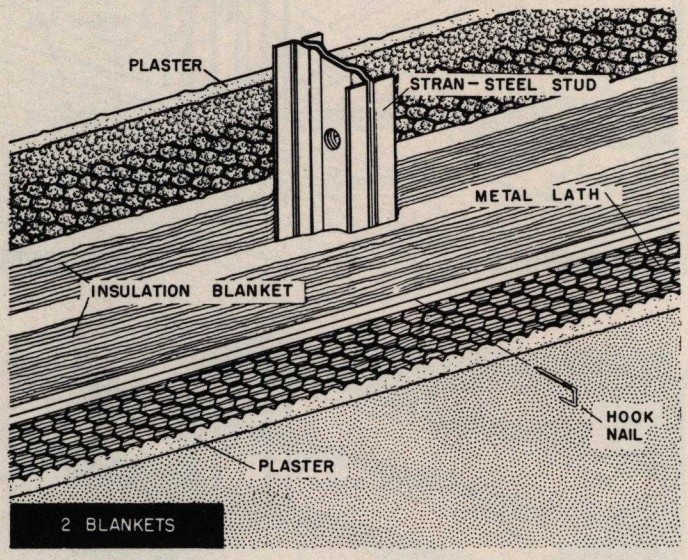
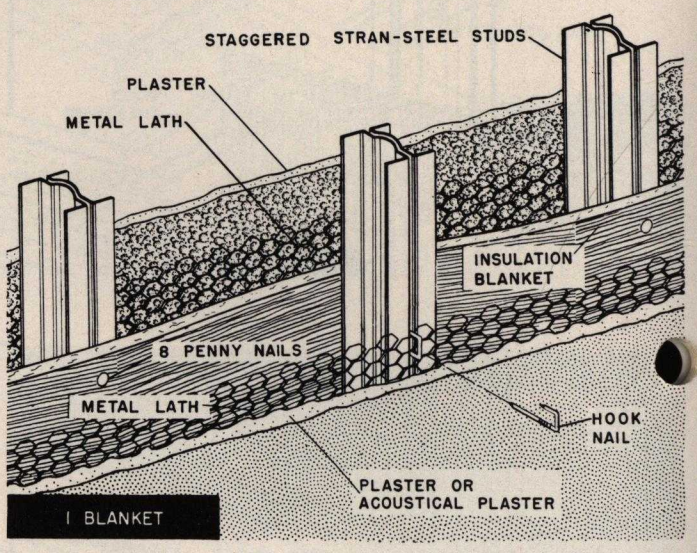
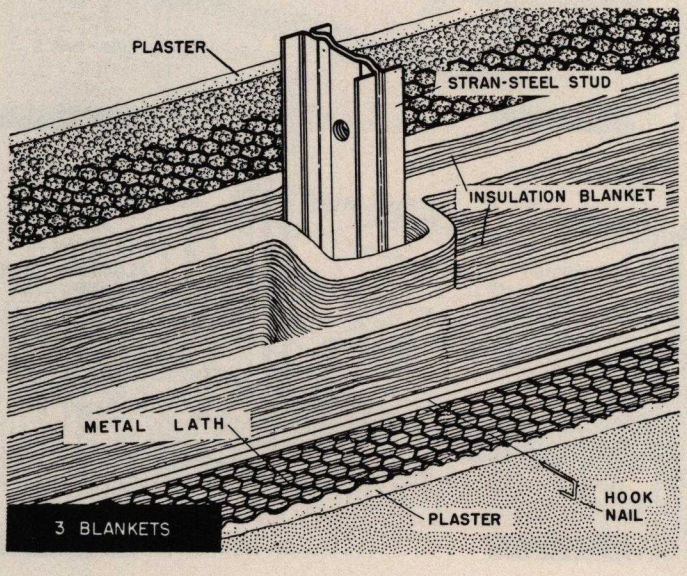
COLLATERAL JOINTS

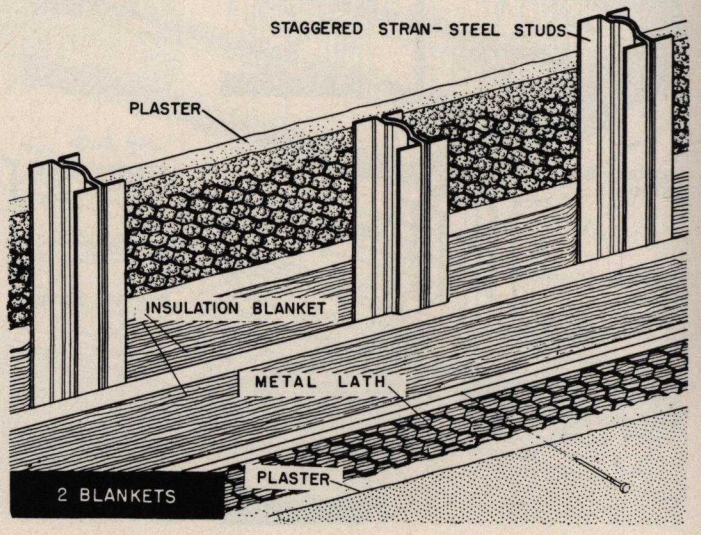












SOUND INSULATION

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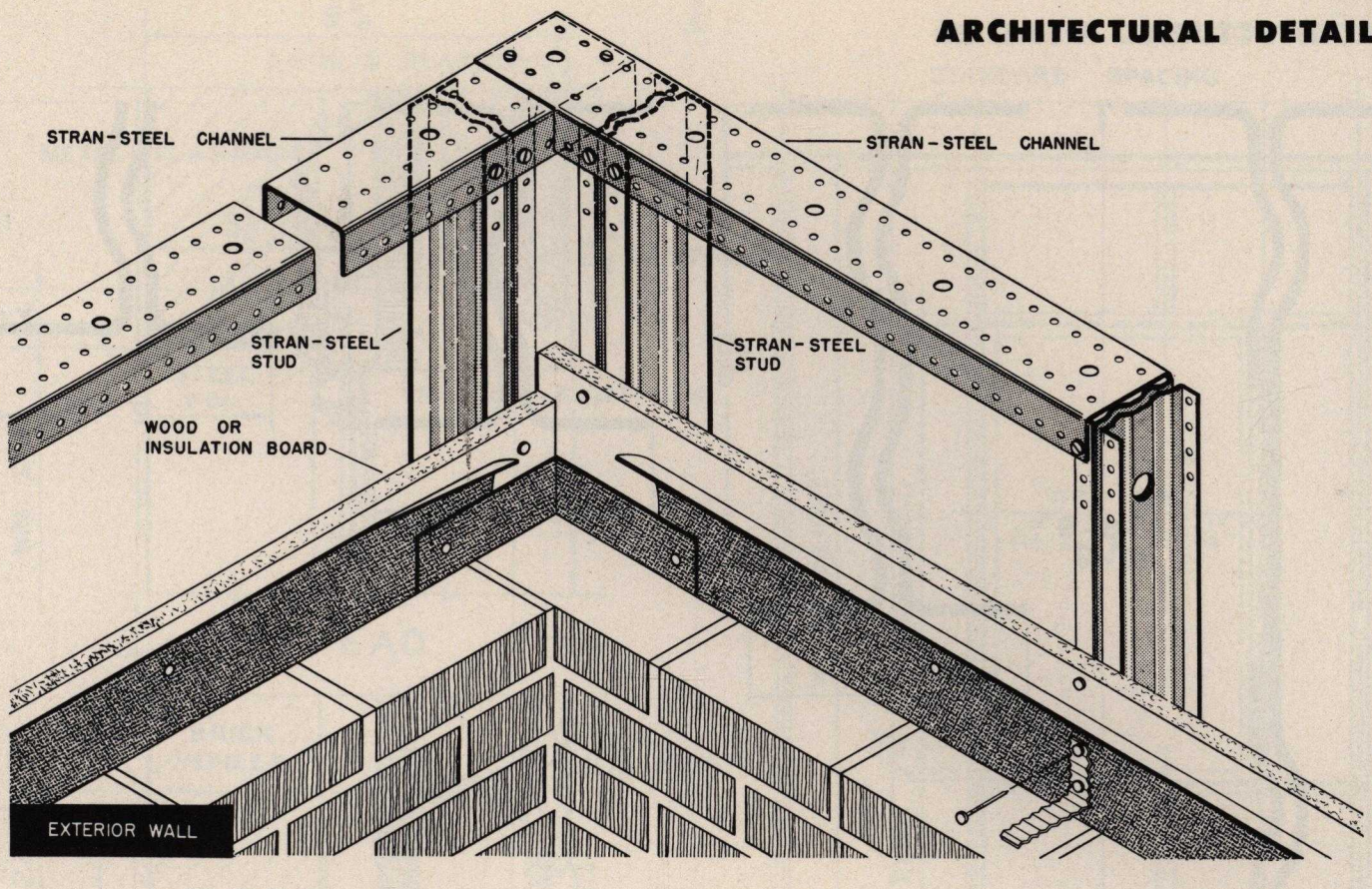

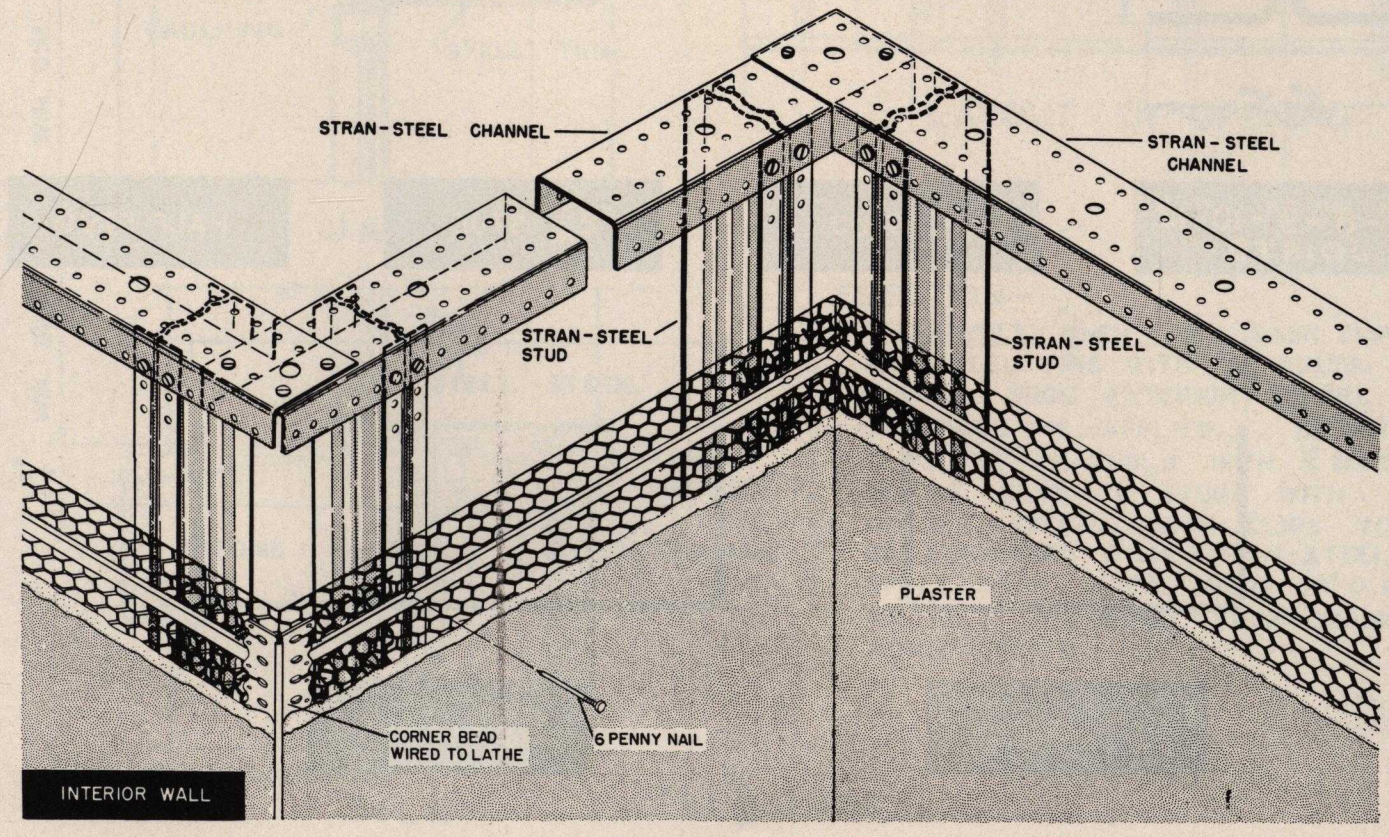

STRAN-STEEL CORPORATION

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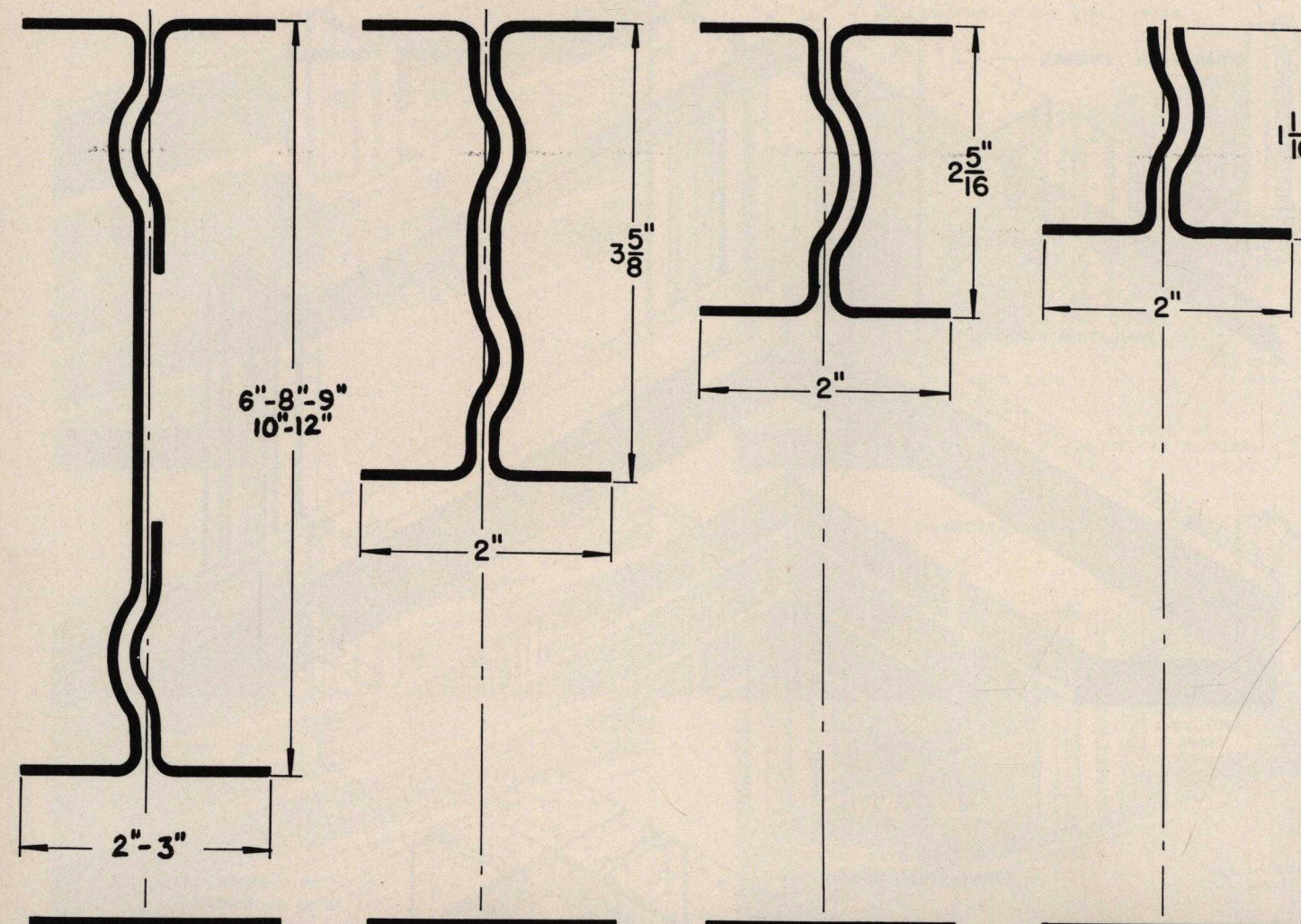
CORNERS

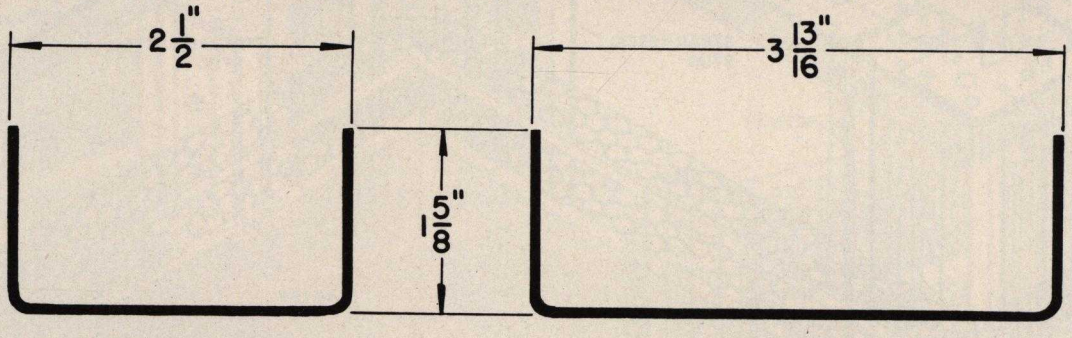


6"-8"-9"-10"-12" JOISTS

3 5/8" STUD

2 5/16" STUD

HALF STUD



2 1/2" CHANNEL

3 13/16" CHANNEL

SCALE- 3/4" = 1"

STRAN-STEEL FRAMING MEMBERS

STRAN-STEEL CORPORATION

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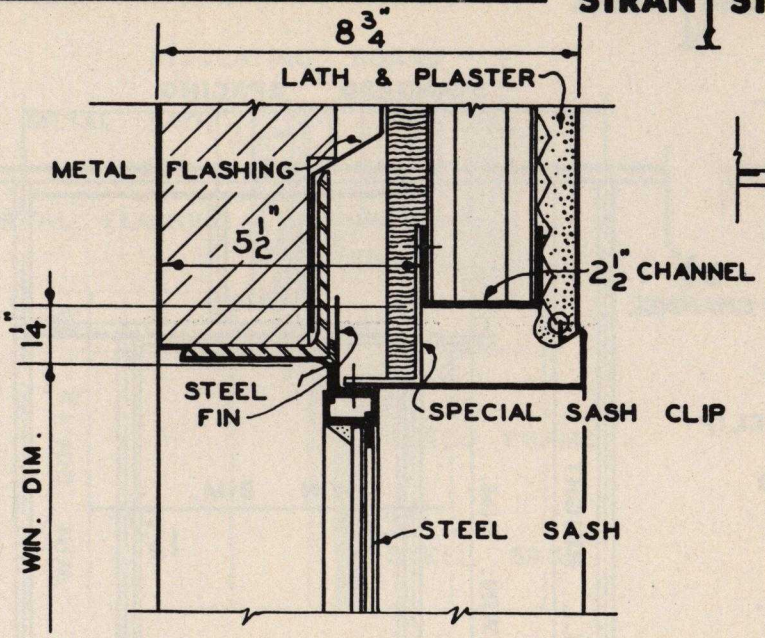

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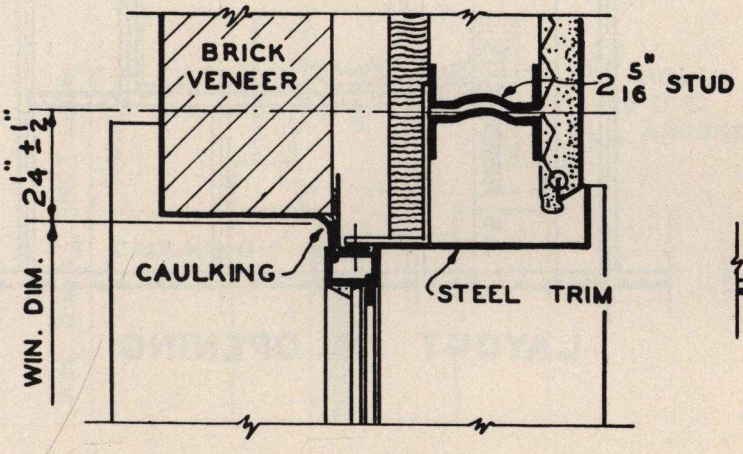
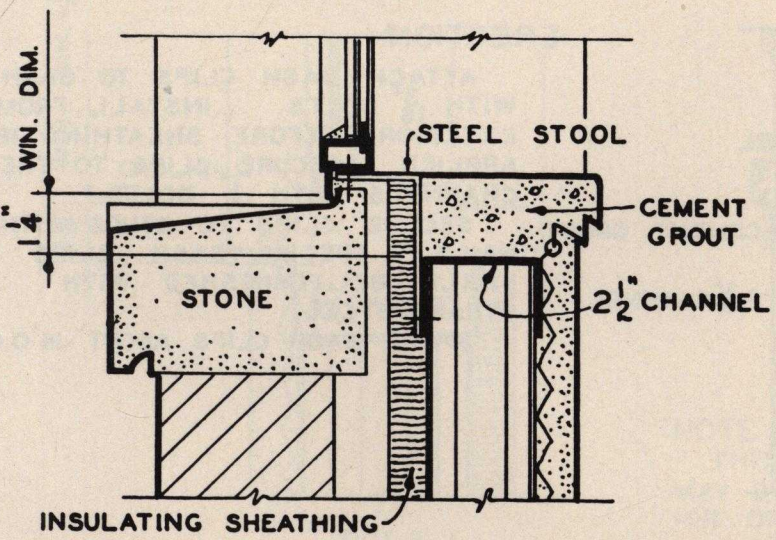


JAMB



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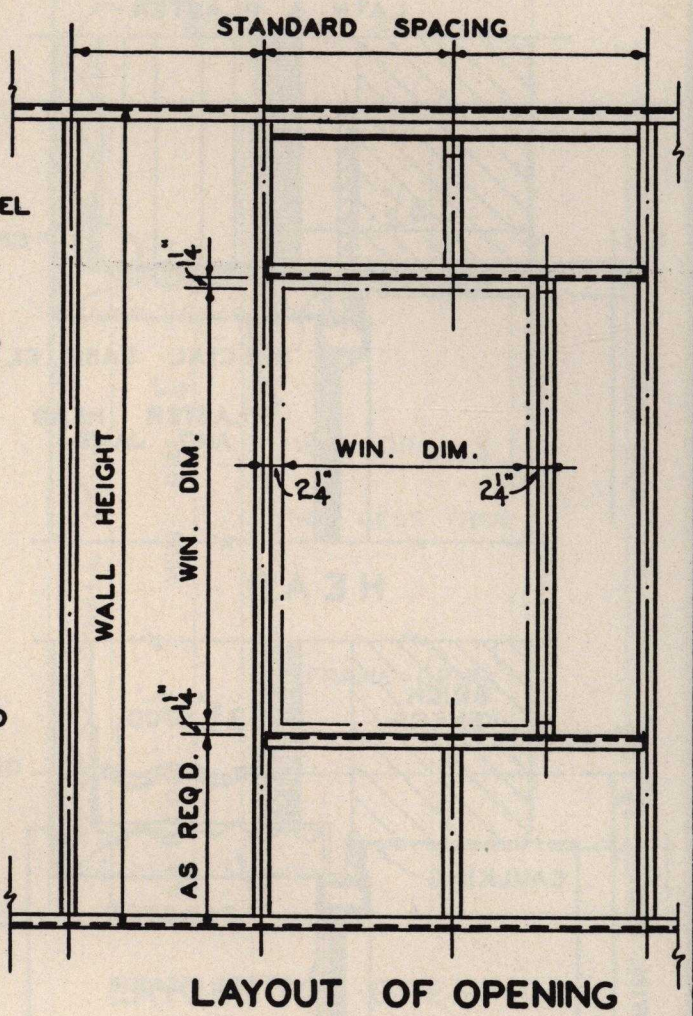

LAYOUT OF OPENING

ERECTION -

ASSEMBLE SASH, TRIM, SASH CLIPS AND STEEL FINS WITH 3/16" BOLTS. INSTALL FROM EXTERIOR BEFORE SHEATHING IS APPLIED. SECURE CLIPS TO CHANNELS WITH 1/4" BOLTS. SECURE CLIPS TO STUDS WITH NAILS. SPECIAL SASH CLIPS TO BE FURNISHED WITH STRAN-STEEL. SPACE SASH CLIPS ABOUT 18" O.C. PROTECT ALL STEEL TRIM DURING CONSTRUCTION.

NOTE - USE SIMILAR DETAIL WITH 3 5/8" STUDS

SCALE 3" = 1'-0"

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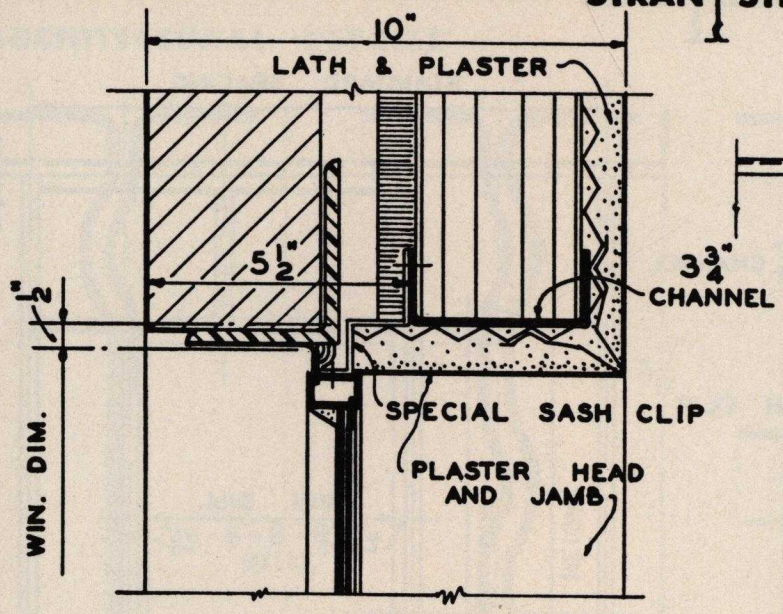
WINDOW DETAILS	
STEEL CASEMENTS STEEL TRIM BRICK VENEER	



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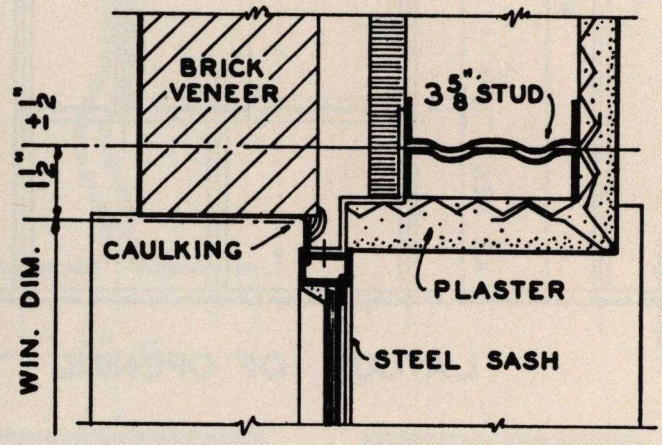

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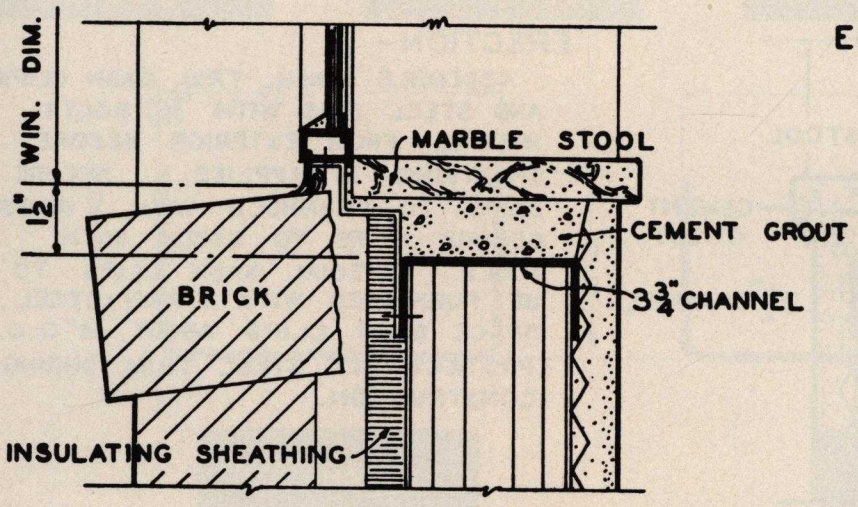

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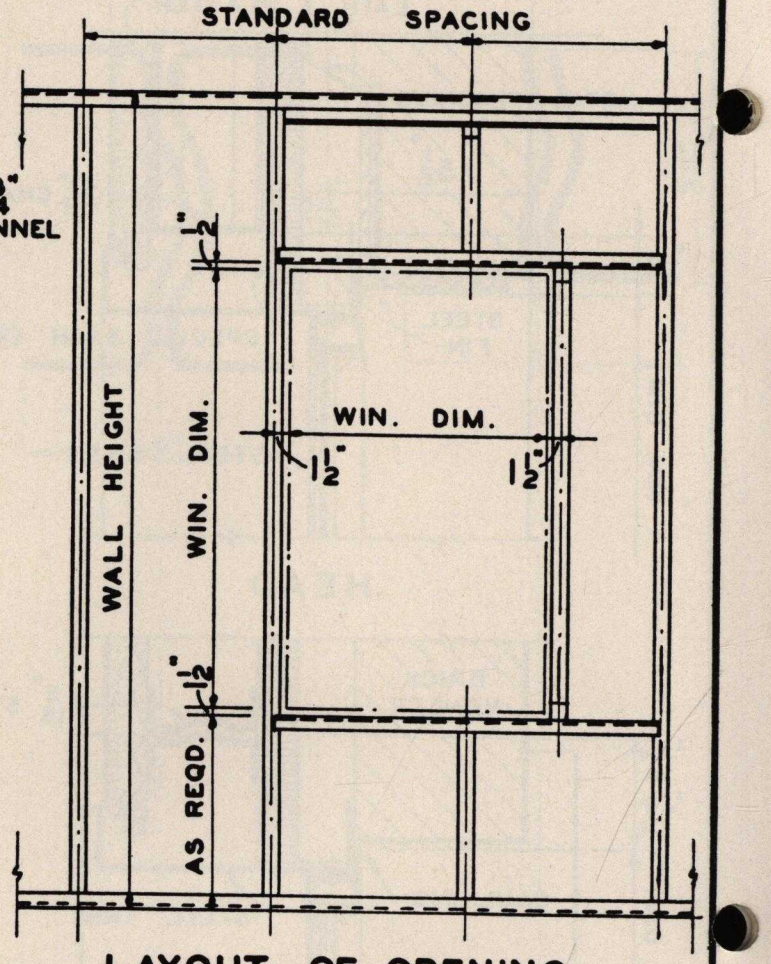

LAYOUT OF OPENING

ERECTION -

ATTACH SASH CLIPS TO SASH WITH 3/16" BOLTS. INSTALL FROM EXTERIOR BEFORE SHEATHING IS APPLIED. SECURE CLIPS TO THE CHANNELS WITH 1/4" BOLTS.

SECURE CLIPS TO STUDS WITH NAILS. SPECIAL SASH CLIPS SHALL BE FURNISHED WITH STRAN - STEEL.

SPACE SASH CLIPS ABOUT 18" O.C.

NOTE - USE SIMILAR DETAIL WITH 2 5/16" STUDS.

SCALE 3"-1'-0"

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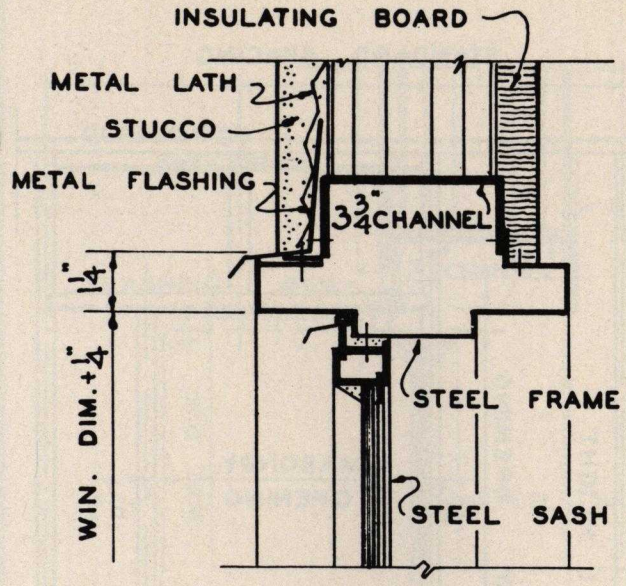
WINDOW DETAILS

STEEL CASEMENT
PLASTER TRIM
BRICK VENEER



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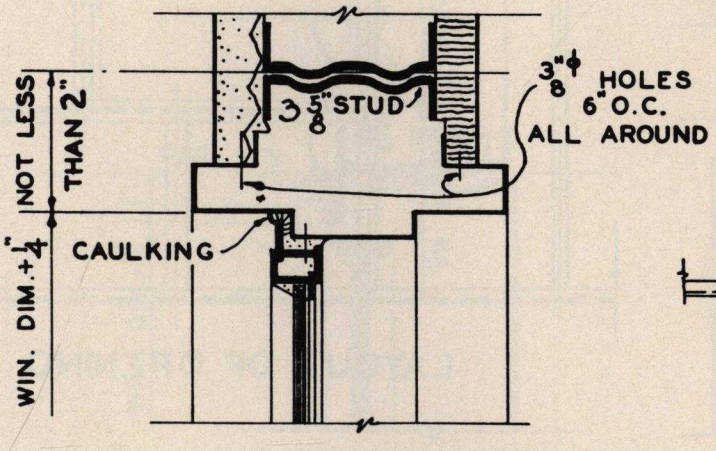

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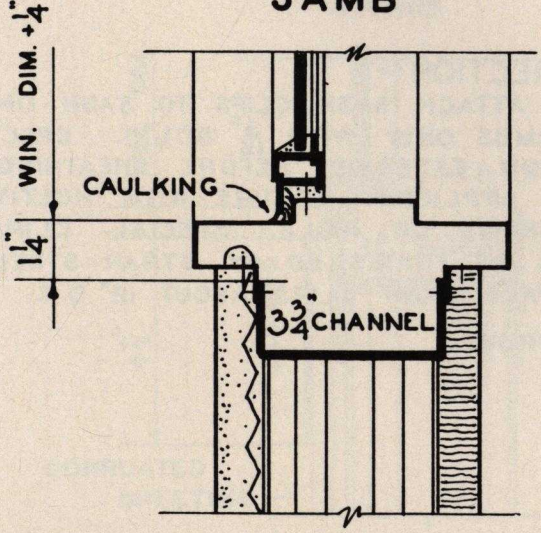

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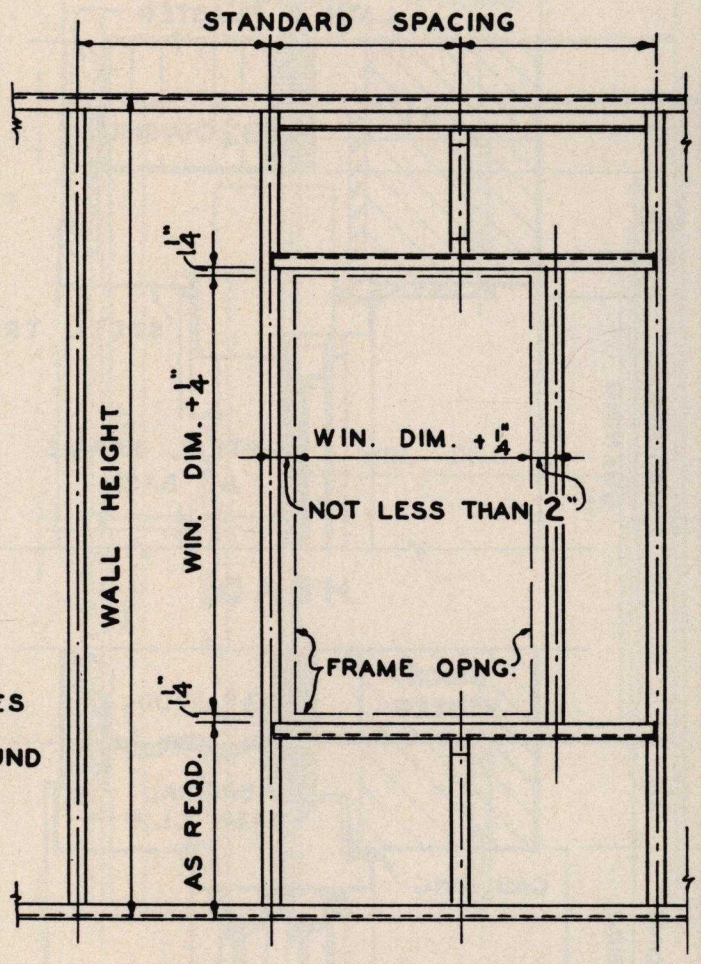

LAYOUT OF OPENING

ERECTION -

ASSEMBLE SASH & FRAME WITH 14 x 7/8" P.K. TYPE 'A' BINDER HEAD SCREWS CADMIUN PLATED. ATTACH FRAME TO HEAD & SILL PLATES ONLY WITH 5/16" x 3/4" P.K. HEX. HEAD CAP SCREWS TYPE 'A'.

NOTE -

THIS TYPE OF WINDOW CONSTRUCTION MAY BE USED WITH ANY TYPE OF EXTERIOR OR INTERIOR COLLATERAL MATERIAL.

NOTE - USE SIMILAR DETAIL WITH 2 5/16" STUDS.

SCALE 3" = 1'-0"

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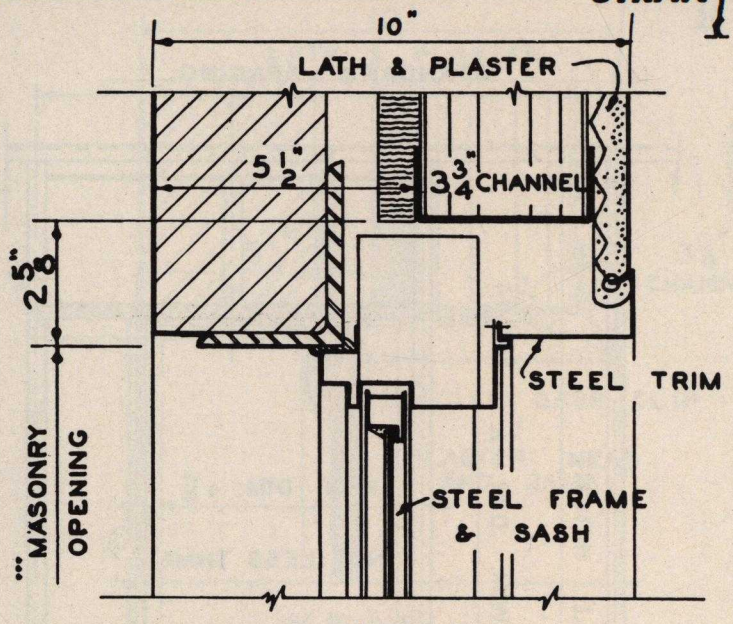
WINDOW DETAILS	
STEEL CASEMENTS STEEL FRAME (TYPICAL) STUCCO EXTERIOR	



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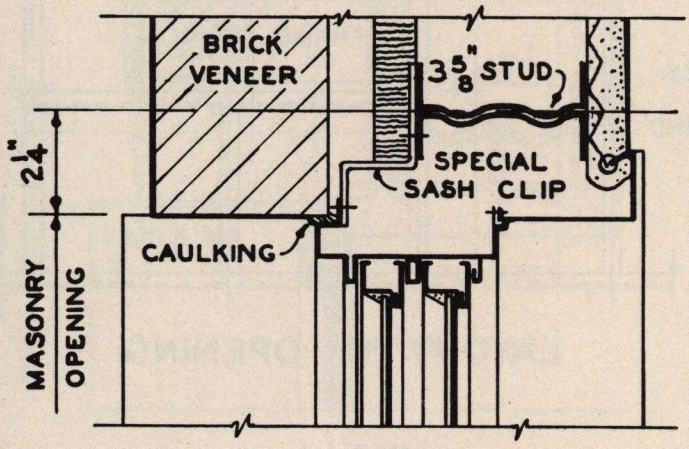

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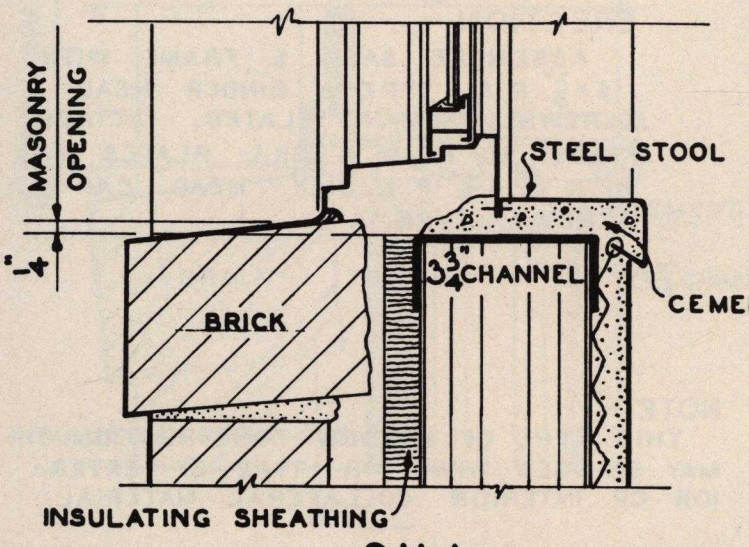

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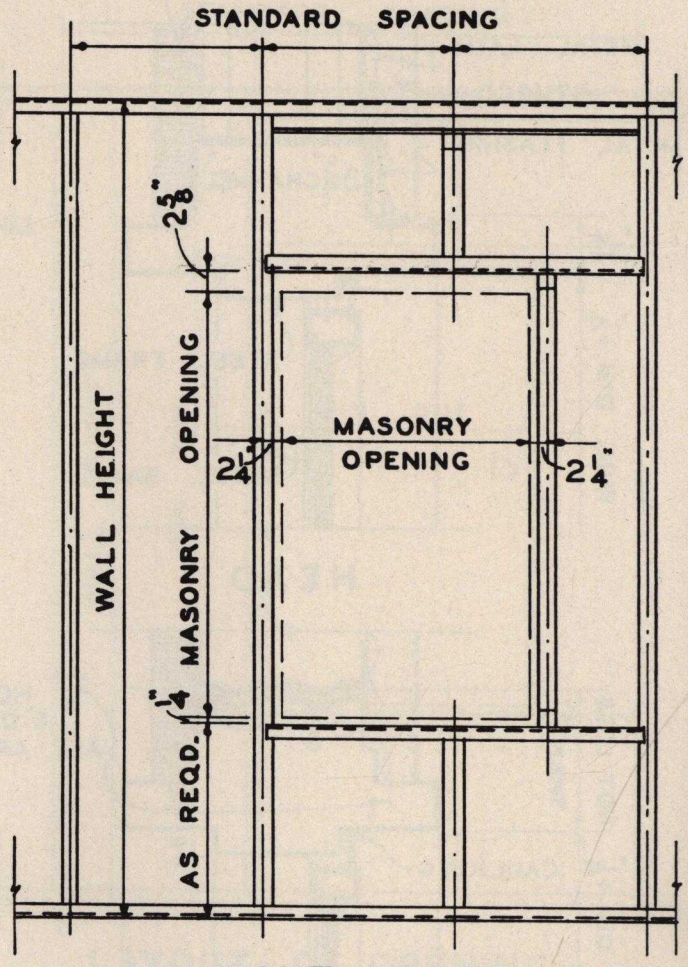

LAYOUT OF OPENING

ERECTION –

ATTACH SASH CLIPS TO SASH ON JAMBS ONLY WITH 3/16" BOLTS. ERECT FROM EXTERIOR BEFORE SHEATHING IS APPLIED. SECURE WITH HOLTITE SCREWS OR NAILS. SPECIAL CLIPS TO BE FURNISHED BY STRAN-STEEL. SPACE SASH CLIPS ABOUT 12" O.C.

NOTE– USE SIMILAR DETAIL WITH 2 5/16" STUDS.

SCALE 3" = 1'-0"

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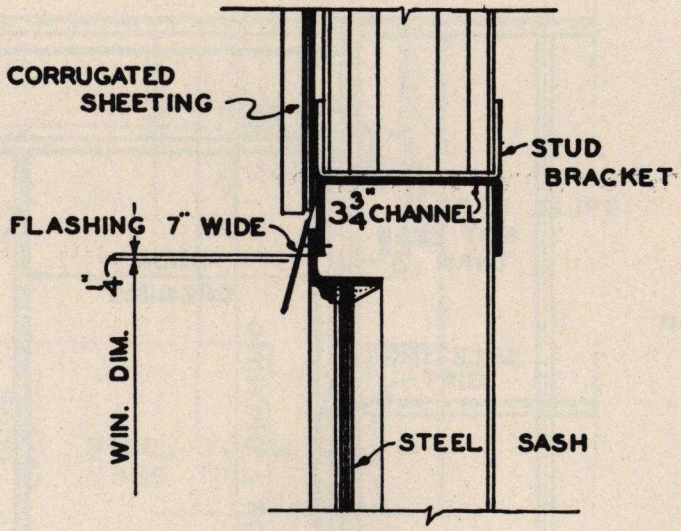
WINDOW DETAILS

STEEL D.H. WDS.
STEEL TRIM
BRICK VENEER



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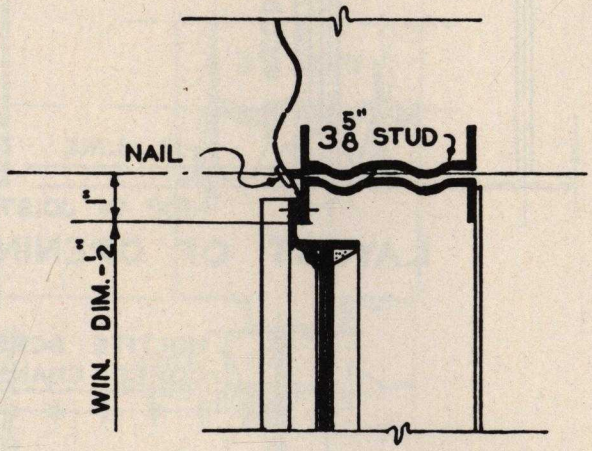

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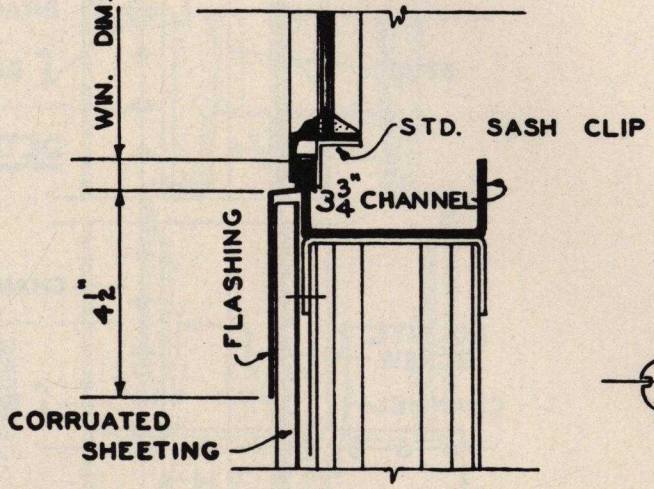

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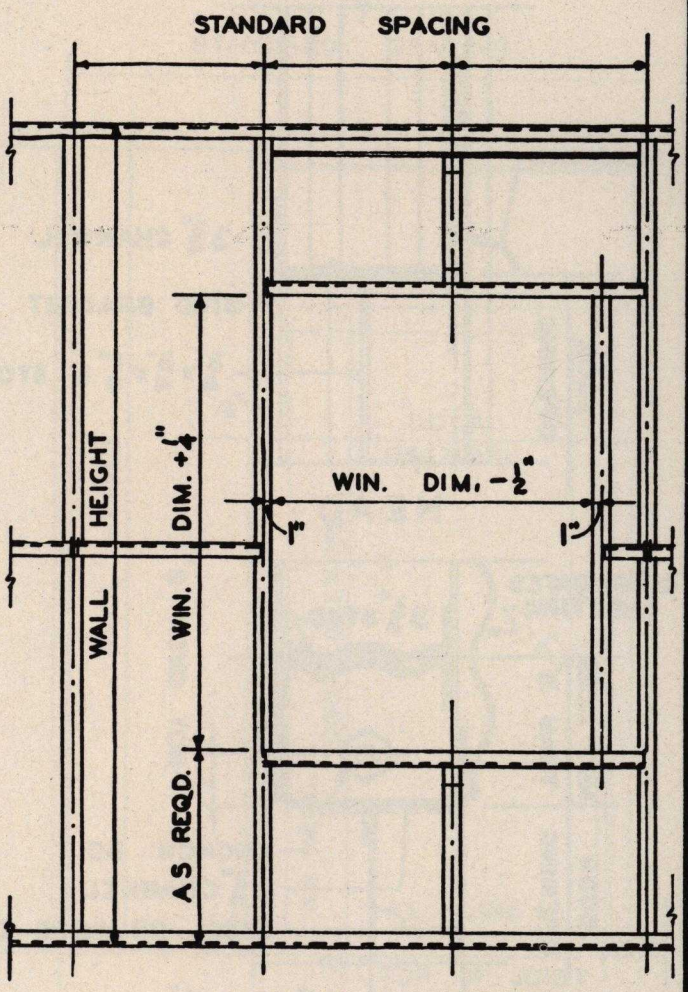
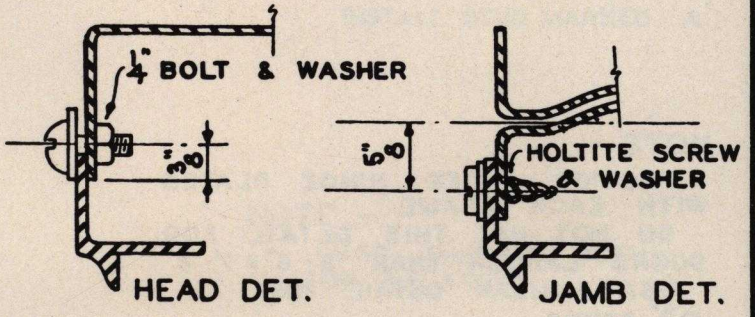


LAYOUT OF OPENING

ERECTION -

ATTACH ALL CORRUGATED SHEETING AND FLASHING. INSTALL WINDOWS WITH SPECIFIED CLIPS. STD. CLIPS FURNISHED BY SASH CONTRACTOR.



HEAD DET. JAMB DET.

NOTE - USE SIMILAR DETAIL WITH 2 5/16" STUDS.

SCALE 3"= 1'-0"

STRAN-STEEL CORPORATION

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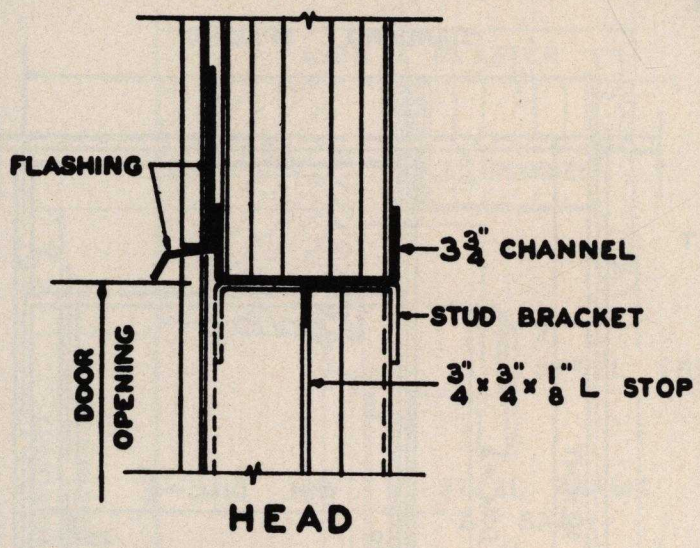
WINDOW DETAILS	
COMMERICAL SASH CORRUATED SHEETING OUTSIDE	



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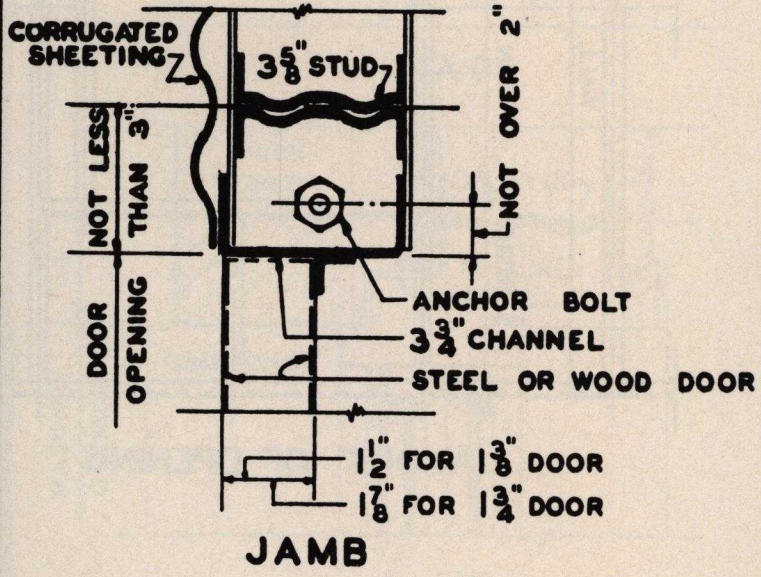

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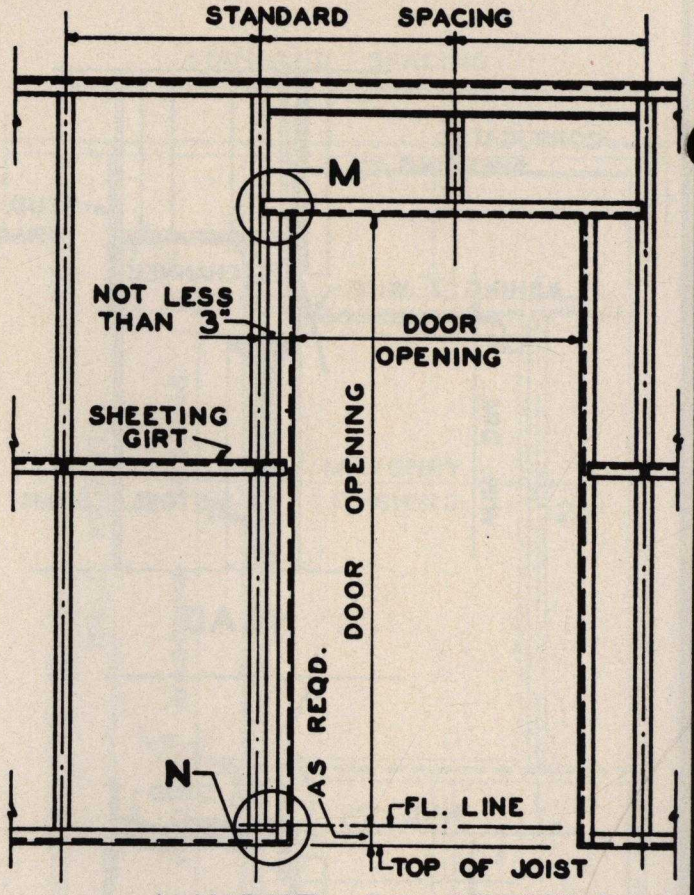
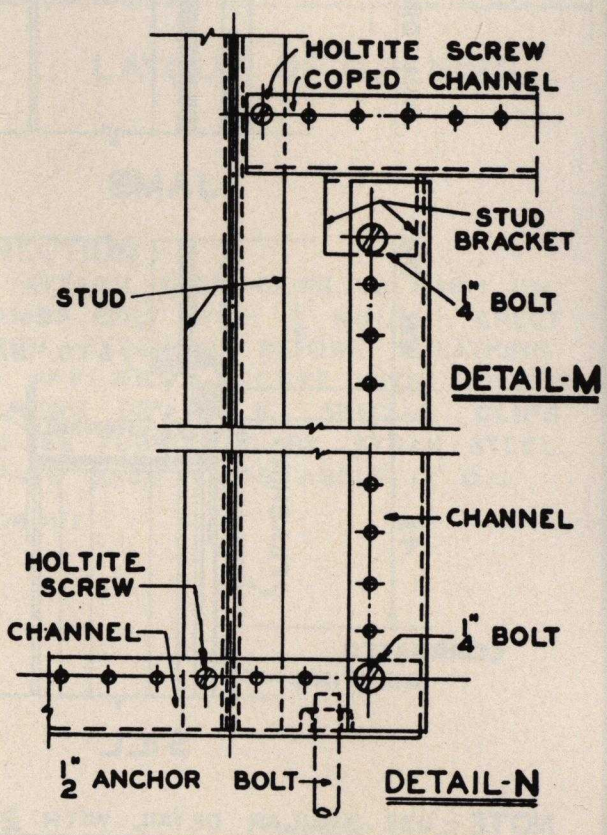


LAYOUT OF OPENING



NOTE -

PROVIDE THREE HINGE PLATES WITH EACH FRAME.

DO NOT USE THIS DETAIL FOR DOORS LARGER THAN 3'-6" x 7'-6"

USE SIMILAR DETAIL FOR 2 5/16" STUDS.

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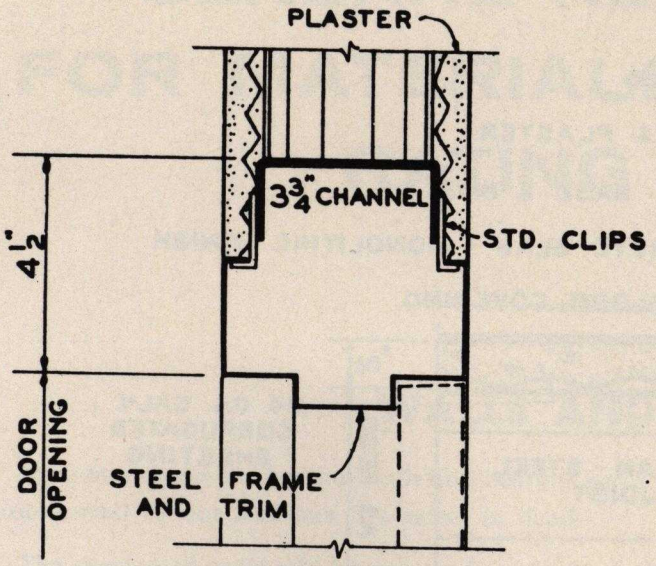
DOOR DETAILS

STRAN-STEEL CHANNEL FRAME

STRAN I STEEL



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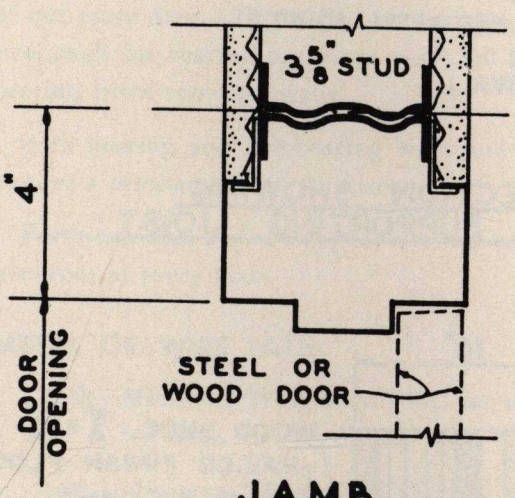

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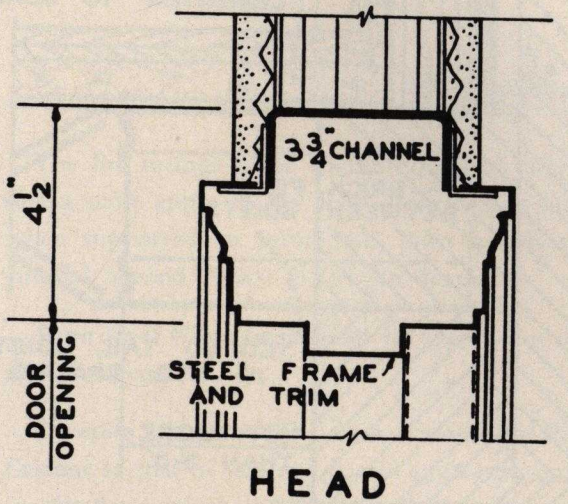
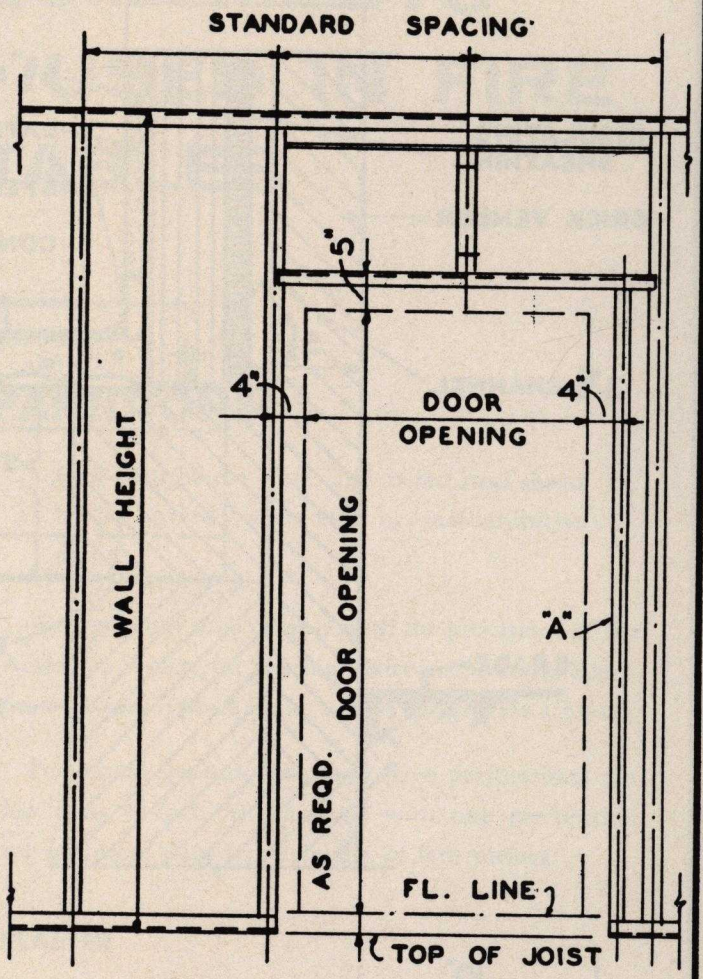


HEAD

SHOWING ALTERNATE TRIM DETAIL · JAMB SIMILAR



LAYOUT OF OPENING

ERECTION -

ERECT ALL STEEL FRAMING EXCEPT STUD MARKED 'A'. INSTALL DOOR FRAME & SECURE CLIPS WITH BOLTS OR HOLTITE SCREWS. INSTALL STUD MARKED 'A'

NOTE -

USE SIMILAR DETAIL FOR $2\frac{5}{16}$" STUDS,

SCALE 3" = 1'-0"

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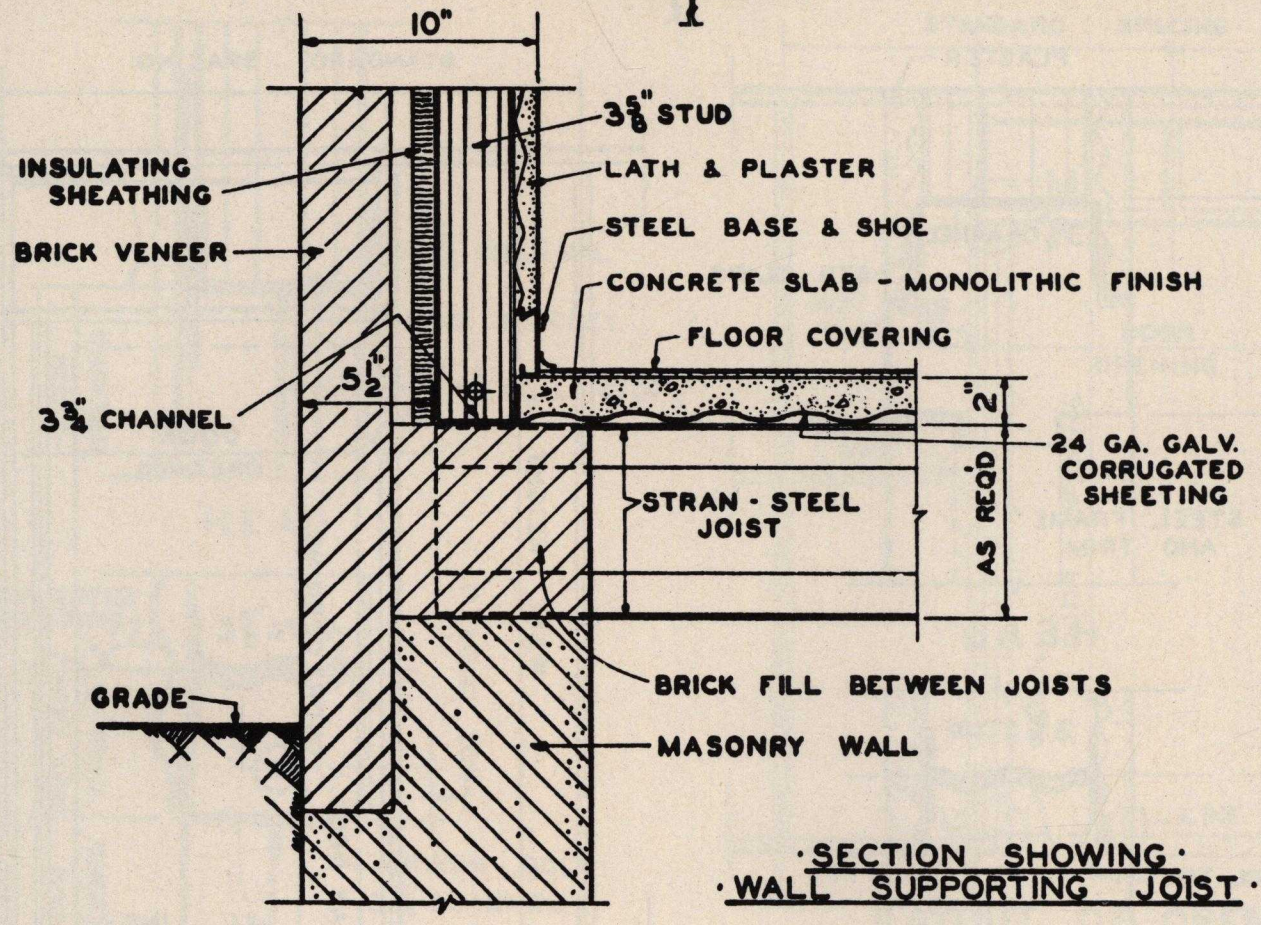
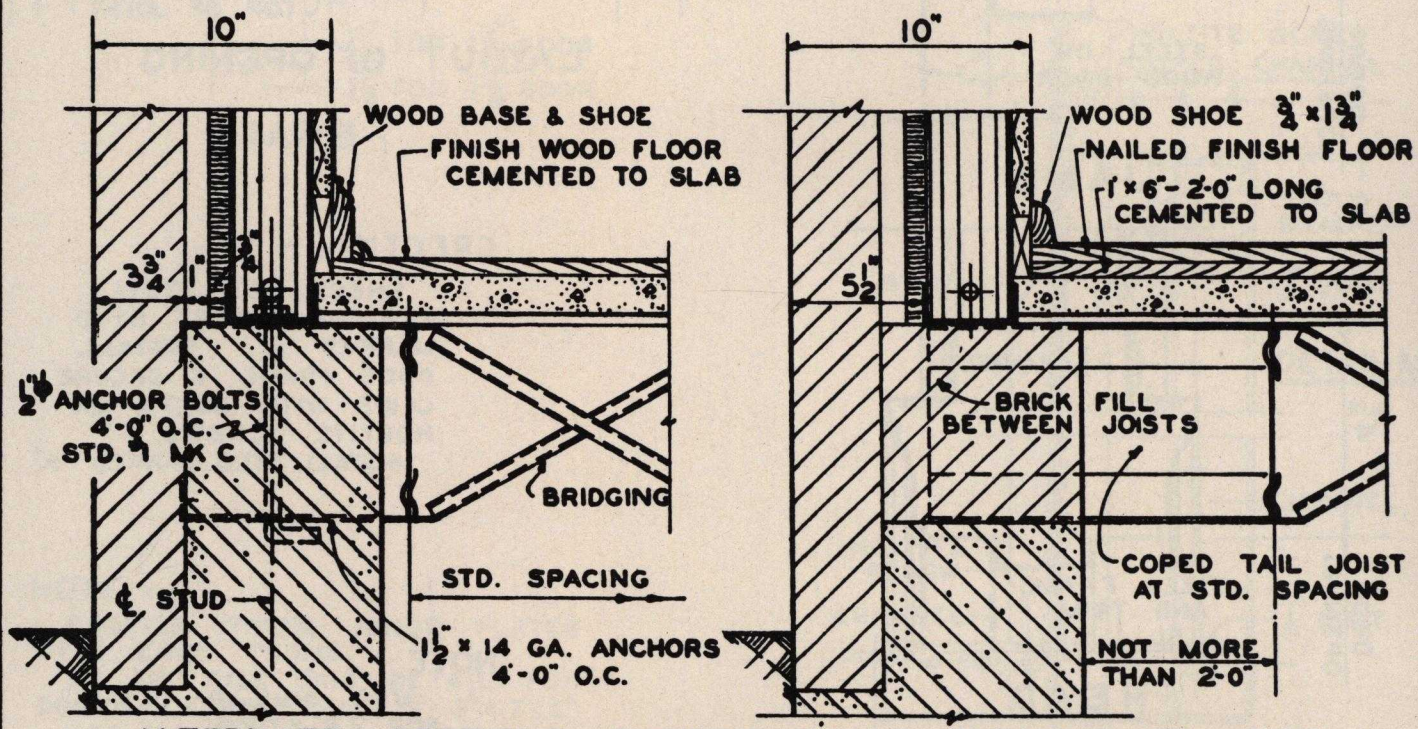
DOOR DETAILS

INTERIOR STEEL FRAME & TRIM

STRAN | STEEL



·SECTION SHOWING·
·WALL SUPPORTING JOIST·



·ALTERNATE SECTIONS SHOWING WALLS PARALLEL TO JOIST·

NOTE - USE SIMILAR DETAIL FOR 2 5/16" STUDS.

SCALE 1½" = 1'-0"

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FOUNDATION DETAILS

BRICK VENEER CONSTRUCTION

GENERAL REQUIREMENTS FOR MATERIALS USED IN FIRE RATING TABLES

WALLS AND PARTITIONS

Stran-Steel studs for bearing walls and bearing partitions shall be not less than 3⅝-inches in depth.

The spacing of studs will be governed by the loading, the ratings being for loads developing a stress of not more than 7,270 lb./in.^{2} of the net area of the steel studs for bearing partitions and 5,120 lb./in.^{2} for bearing brick-veneered walls.

Both bearing and non-bearing walls and partitions require a minimum 2-in. air space.

Partitions shall be fire stopped with non-combustible materials at every floor.

METAL OR WIRE LATH

Lath—Minimum Weight=2.5 lbs. per sq. yd. for walls and partitions.

Lath—Minimum Weight=2.75 lbs. per sq. yd. for ceilings.

Lath shall be cut from zinc-coated steel sheets or be covered with zinc or rust-inhibitive paint.

Gypsum Lath shall comply with the provisions of the American Society for Testing Materials Standard Specifications for Gypsum Lath (ASTM designation C37-42).

Perforated gypsum lath shall have perforations not less than ¾-inch in diameter, with one perforation for not more than 16 sq. inches of lath surface.

PLASTER

All plaster proportions are by dry weight of materials. Plaster thickness shall be measured from the face of plaster base except that for metal or wire lath the thickness of plaster shall be measured from the back of lath.

FLOORS AND CEILINGS

The fire ratings given in the floor and ceiling fire rating table apply to the floor constructions indicated when supported on Stran-Steel joists which are not stressed beyond 18,000 lb./in. in flexure.

Stran-Steel Floor Joists shall be spaced not over 30 inches on centers.

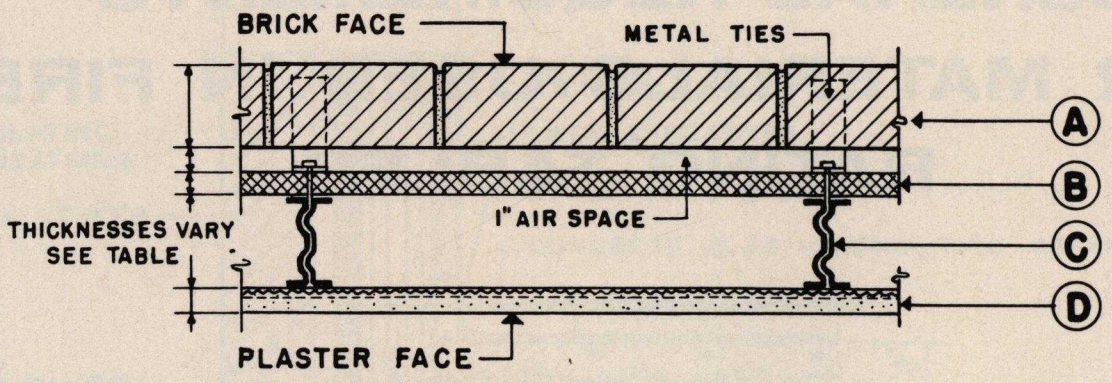
Concrete Top Slab—The ratio of weight of Portland Cement to that of fine and coarse aggregate combined for the floor slab shall not be less than 1:6½.

Metal Lath of approved weight serving as a form for poured top slab may be considered as reinforcement.

Plaster for ceilings shall be applied on metal lath (expanded metal, woven wire, or paper-backed wire lath) of appropriate weight for the spacing of the supports. The lath shall be tied to the supports to give the equivalent of single No. 18-gage steel-wire tied on 5-in. centers.

All plaster proportions are by dry weight.

Reference:—"Report BMS-92," U. S. Bureau of Standards.
"Fire Protection through modern building codes."—B. L. Wood



TYPICAL SECTION

BRICK VENEERED WALLS - FIRE RATING TABLE

TYPE NO.	MATERIALS				FIRE RATING	
	(A)	(B)	(C)	(D)	PLASTER FACE EXPOSED	BRICK FACE EXPOSED
1.	$3\frac{3}{4}$" BRICK VENEER ATTACHED TO STEEL FRAME EVERY 5TH. COURSE	1" INSULATION BOARD LOCATED AS SHOWN. (FIRE RETARDENT)	STRAN-STEEL STUDS	$\frac{7}{8}$" SANDED GYPSUM PLASTER (1:2 MIX) APPLIED ON METAL OR WIRE LATH.	$1\frac{3}{4}$ HOURS	4 HOURS
2.	$3\frac{3}{4}$" BRICK VENEER ATTACHED TO STEEL FRAME EVERY 5TH. COURSE	1" INSULATION BOARD LOCATED AS SHOWN. (FIRE RETARDENT)	STRAN-STEEL STUDS	$\frac{7}{8}$" VERMICULITE PLASTER OR 1" SANDED GYPSUM PLASTER (1:2 MIX) APPLIED ON METAL OR WIRE LATH.	2 HOURS	4 HOURS
3.	$3\frac{3}{4}$" BRICK VENEER ATTACHED TO STEEL FRAME EVERY 5TH. COURSE	1" INSULATING MATERIAL LOCATED ON PLASTER SIDE OF STEEL STUDS ONLY. (FIRE RETARDENT)	STRAN-STEEL STUDS	$\frac{3}{4}$" SANDED GYPSUM PLASTER MIX {1:2 FOR SCRATCH, 1:3 FOR BROWN COAT} APPLIED ON METAL LATH	4 HOURS	4 HOURS
4.	$3\frac{3}{4}$" BRICK VENEER ATTACHED TO STEEL FRAME EVERY 5TH. COURSE	$\frac{1}{2}$" GYPSUM SHEATHING BOARD ON BRICK SIDE OF STEEL STUDS.	STRAN-STEEL STUDS	$\frac{1}{2}$" PERFORATED GYPSUM LATH WITH 3" WIDE STRIPS OF METAL LATH ON ALL HORIZONTAL JOINTS ON PLASTER SIDE OF STEEL STUDS. PLASTERED WITH $\frac{1}{2}$" SANDED GYPSUM PLASTER (1:2 MIX)	2 HOURS	4 HOURS

● REFERENCE: - "REPORT BMS-92", U.S. BUREAU OF STANDARDS
"FIRE PROTECTION THROUGH MODERN BUILDING CODES" - B.L. WOOD

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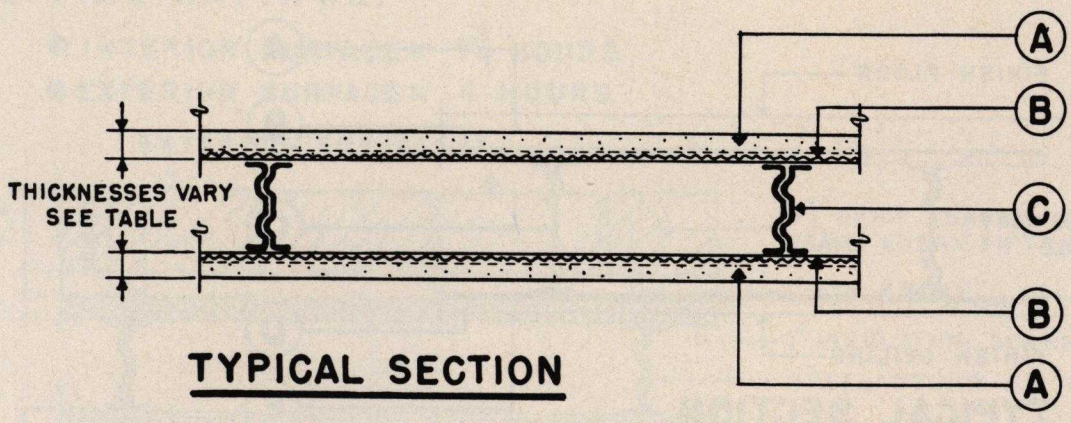
FIRE RATING TABLE
BRICK VENEERED WALLS



TYPICAL SECTION

PARTITIONS - FIRE RATING TABLE

TYPE NO.	MATERIALS			FIRE RATING (EITHER FACE)	
	(A)	(B)	(C)	LOAD BEARING	NON-LOAD BEARING
1.	1" UNSANDED GYPSUM PLASTER	METAL OR WIRE LATH	STRAN-STEEL STUDS	2 HOURS *	2½ HOURS
2.	7/8" UNSANDED GYPSUM PLASTER OR 1" SANDED GYPSUM (1:½ MIX)	METAL OR WIRE LATH	STRAN-STEEL STUDS		2 HOURS
3.	7/8" SANDED GYPSUM PLASTER (1:½ MIX)	METAL OR WIRE LATH	STRAN-STEEL STUDS		1½ HOURS
4.	7/8" SANDED GYPSUM PLASTER (1:2 MIX FOR SCRATCH & BROWN COATS)	METAL OR WIRE LATH	STRAN-STEEL STUDS	1¼ HOURS	1¼ HOURS
5.	7/8" SANDED GYPSUM PLASTER MIX {1:2 FOR SCRATCH, 1:3 FOR BROWN COAT	METAL OR WIRE LATH	STRAN-STEEL STUDS	1 HOUR	1 HOUR
6.	7/8" PORTLAND CEMENT - ASBESTOS FIBER PLASTER MIX {1:2 FOR SCRATCH, 1:3 FOR BROWN COAT; 3 LBS. ASBESTOS FIBER PER BAG CEMENT	METAL OR WIRE LATH	STRAN-STEEL STUDS		1 HOUR
7.	3/4" UNSANDED GYPSUM PLASTER	METAL OR WIRE LATH	STRAN-STEEL STUDS	1½ HOURS	1½ HOURS
8.	3/4" SANDED GYPSUM PLASTER (1:2 MIX)	METAL OR WIRE LATH	STRAN-STEEL STUDS	1 HOUR	1 HOUR

* FOR PARTITIONS LOADED NOT TO EXCEED 5,120 LB/IN^2 OF STUD AREA THE RATING IS 2½ HOURS.

● REFERENCE:- "REPORT BMS-92", U.S. BUREAU OF STANDARDS
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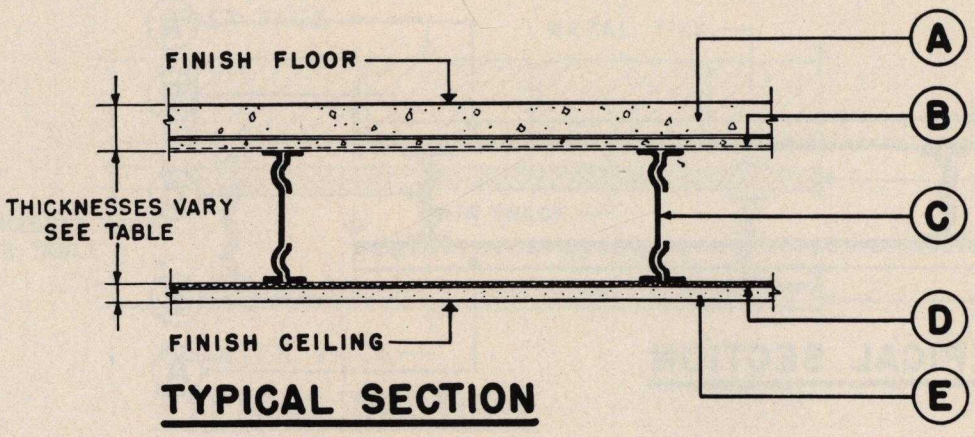
FIRE RATING TABLE
PARTITIONS



TYPICAL SECTION

FLOOR & CEILING FIRE RATING TABLE

TYPE NO.	MATERIALS					FIRE RATING
	(A)	(B)	(C)	(D)	(E)	
1.	2 1/2" TOP SLAB	METAL LATH	STRAN-STEEL JOIST	METAL LATH	1" GYPSUM-VERMICULITE PLASTER RATIO OF WT. GYPSUM TO VERMICULITE } RANGE 2:1 TO 3:1	4 HOURS
2.	2 1/2" TOP SLAB	METAL LATH	STRAN-STEEL JOIST	METAL LATH	1" UNSANDED GYPSUM PLASTER OR: 3/4" GYPSUM-VERMICULITE PLASTER RATIO OF WT. GYPSUM TO VERMICULITE } RANGE 2:1 TO 3:1	3 HOURS
3.	2 1/2" TOP SLAB	METAL LATH	STRAN-STEEL JOIST	METAL LATH	7/8" SANDED GYPSUM PLASTER MIX { 1:2 FOR SCRATCH 1:2 FOR BROWN COAT	2 1/2 HOURS
4.	2" TOP SLAB	METAL LATH	STRAN-STEEL JOIST	METAL LATH	1" UNSANDED GYPSUM PLASTER OR: 3/4" GYPSUM-VERMICULITE PLASTER RATIO OF WT. GYPSUM TO VERMICULITE } RANGE 2:1 TO 3:1	2 1/2 HOURS
5.	2 1/4" TOP SLAB	METAL LATH	STRAN-STEEL JOIST	METAL LATH	3/4" SANDED GYPSUM PLASTER MIX { 1:2 FOR SCRATCH 1:3 FOR BROWN COAT	2 HOURS
6.	2" TOP SLAB	METAL LATH	STRAN-STEEL JOIST	METAL LATH	3/4" SANDED GYPSUM PLASTER MIX { 1:2 FOR SCRATCH 1:3 FOR BROWN COAT OR: 3/4" PORTLAND CEMENT & SAND PLASTER OF LIKE MIX WITH 15 LBS. OF HYDRATED LIME & 3 LBS. OF SHORT ASBESTOS FIBER PER BAG OF PORTLAND CEMENT.	1 1/2 HOURS
7.	3" WOOD 4 SHEATHING SUB-FLOOR	T. & G. FIN. FLOOR WITH INSULATING PAPER BETWEEN	STRAN-STEEL	METAL LATH	CEILING SAME AS SHOWN IN 1 1/2 HOURS RATING ABOVE.	1 HOUR

● REFERENCE:- "REPORT BMS-92", U.S. BUREAU OF STANDARDS
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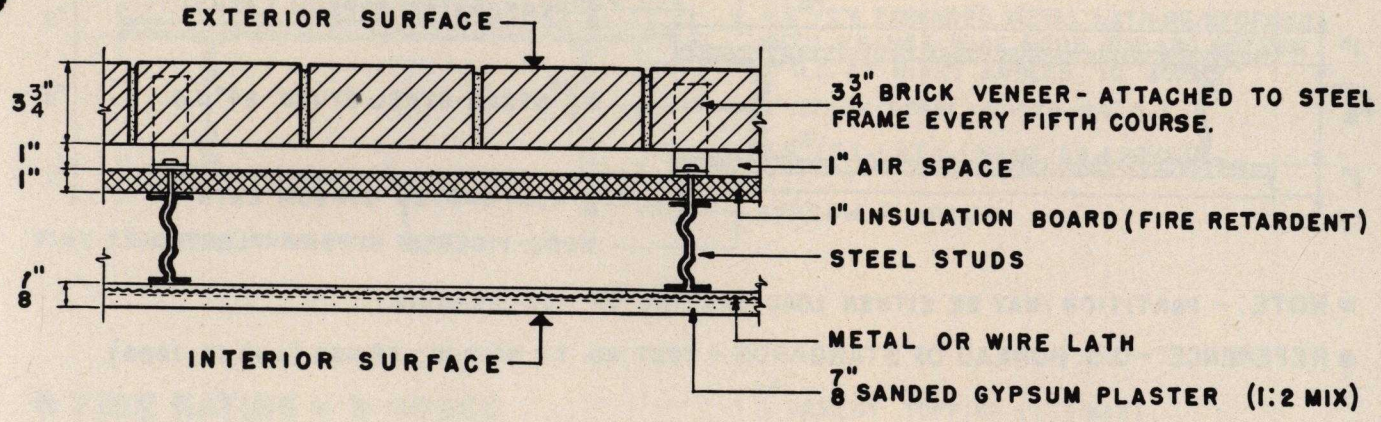
FIRE RATING TABLE
FLOOR AND CEILING

● FIRE RATINGS:

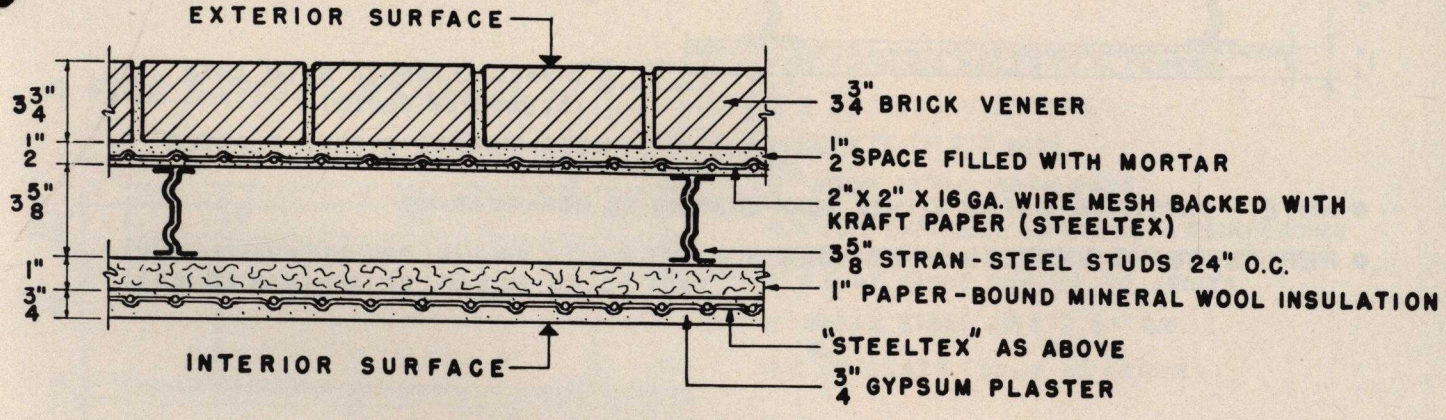
- ● INTERIOR SURFACE = $1\frac{3}{4}$ HOURS
- ● EXTERIOR SURFACE = 4 HOURS



● REFERENCE: - "REPORT BMS-92", U. S. BUREAU OF STANDARDS.

● FIRE RATINGS:

- ● INTERIOR SURFACE = 4 HOURS
- ● EXTERIOR SURFACE = 6 HOURS



● REFERENCE: - U. S. BUREAU OF STANDARDS
TEST NO. B 21 (MARCH 24, 1941) - SUPPLEMENTARY TO T.G. 3619-18; FR 1188 (AUG. 12, 1938)

● NOTE: - "STANDARD FIRE TEST", REQUIRES THAT A TEMPERATURE OF 1575° F SHALL BE REACHED IN $\frac{1}{2}$ HOUR; 1900° F IN 2 HOURS, AND THIS TEMPERATURE MAINTAINED FOR DURATION OF TEST.

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● FIRE RATING ●
BRICK VENEERED WALL CONSTRUCTION

914 Ring Building
1200 18th Street, N.W.
Washington 6, D. C.
Executive 3-4214

206 Volunteer Building
Atlanta 3, Georgia
Lamar 6611

Room 101, Center-West Building
20950 Center Ridge Road, Rocky River
Cleveland 16, Ohio
EDison 1-3834

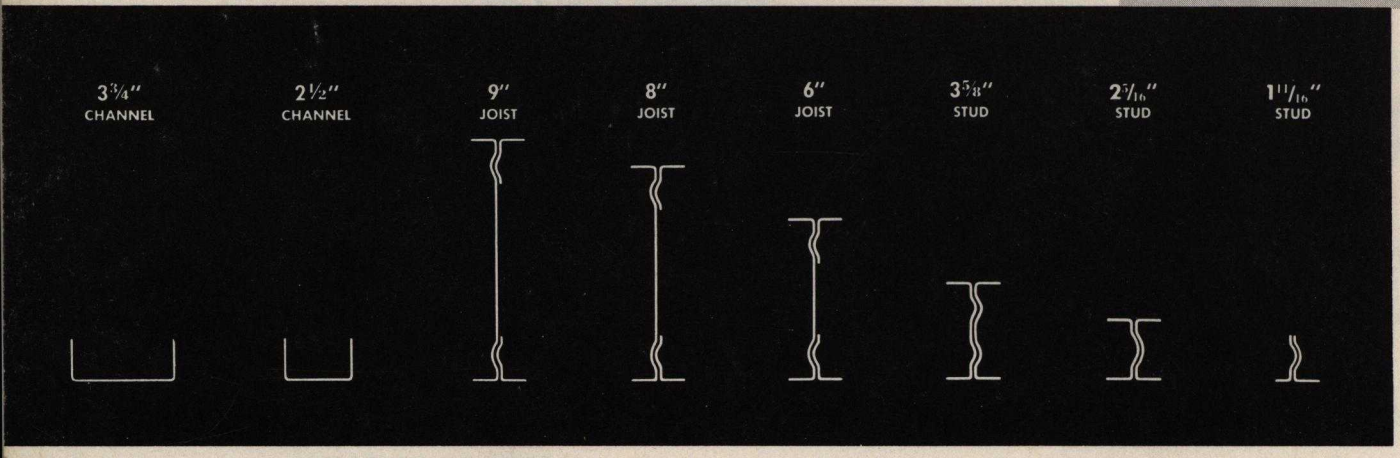
708 South 10th Street
Minneapolis 4, Minnesota
FEderal 9-8875

1322 Burlington
North Kansas City, Missouri
Baltimore 1-8892

631 Russ Building
235 Montgomery Street
San Francisco 4, California
Douglas 2-1200

61st Floor, Chrysler Bldg.
405 Lexington Avenue
New York, N.Y.
Murray Hill 6-1400

Suite 103
2444 Times Building
Houston 5, Texas
Jackson 3-8312,
Jackson 3-9342



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Ecorse, Detroit 29, Michigan

LADUE SUPPLY INC.

CEMSTEEL BLDGS.
8870 LADUE ROAD
CLAYTON, MO. PA. 5-6490